92-1150

No. 92-——

Supreme Court, U.S.
FILED
JAN 5 1993
OFFICE OF THE CLERK

In the Supreme Court of the United States

OCTOBER TERM, 1992

CHEMICAL MANUFACTURERS ASSOCIATION and AMERICAN PETROLEUM INSTITUTE, PETITIONERS

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, ET AL.

Petition for a Writ of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

PETITION FOR A WRIT OF CERTIORARI

DAVID F. ZOLL
RONALD A. SHIPLEY
CHEMICAL MANUFACTURERS ASSOCIATION
2501 M Street, N.W.
Washington, D.C. 20037
(202) 887-1160

MICHAEL W. STEINBERG *
PETER BUSCEMI
HUNTER L. PRILLAMAN
MORGAN, LEWIS & BOCKIUS
1800 M Street, N.W.
Washington, D.C. 20036
(202) 467-7141

G. WILLIAM FRICK
RALPH J. COLLELI, JR.
AMERICAN PETROLEUM INSTITUTE
1220 L Street, N.W.
Washington, D.C. 20005
(202) 682-8252

January 5, 1993

* Counsel of Record

WILSON - EPES PRINTING CO., INC. - 789-0096 - WASHINGTON, D.C. 20001

QUESTIONS PRESENTED

1. Whether the court of appeals improperly failed to defer to EPA's interpretation of Section 3004 of the Resource Conservation and Recovery Act ("RCRA") and improperly required EPA to regulate under RCRA billions of gallons per year of dilute wastewater that is already extensively regulated by EPA under the Clean Water Act and the Safe Drinking Water Act.

2. Whether the court of appeals improperly failed to defer to EPA's interpretation of Section 1006 of RCRA and improperly rejected EPA's decision to integrate the overlapping requirements of RCRA, the Clean Water Act, and the Safe Drinking Water Act in order to avoid massive disruption at thousands of industrial plants throughout the United States.

LIST OF INTERESTED PARTIES

The parties to the proceeding below were the Chemical Manufacturers Association, American Petroleum Institute, The Fertilizer Institute, RSR Corporation, American Iron and Steel Institute, American Mining Congress, American Paper Institute, National Forest Products Association, Specialty Steel Industry of the United States, Chemical Waste Management, Inc., Edison Electric Institute, The Dow Chemical Company, Zinc Corporation of America, Horsehead Resource Development Co., Exide Corporation, The Aluminum Association, Natural Resources Defense Council, Environmental Defense Fund, Hazardous Waste Treatment Council, Sierra Club, E.I. du Pont de Nemours & Co., Inc., The Chlorine Institute, National Association of Metal Finishers, Secondary Lead Smelters Association, Allied-Signal Inc., Lead Industries Association, Inc., The Cadmium Council, Inc., Institute of Makers of Explosives, Thiokol Corp., Olin Corp., Steel Manufacturers Association, the United States Environmental Protection Agency, and William K. Reilly, the Administrator of the Environmental Protection Agency.

Petitioner Chemical Manufacturers Association ("CMA") is a nonprofit trade association whose member companies represent more than 90 percent of the productive capacity for basic industrial chemicals within the United States. CMA does not have any outstanding securities in the hands of the public, nor does CMA have a publicly owned parent, subsidiary, or affiliate.

Petitioner American Petroleum Institute ("API") is a nationwide, not-for-profit trade association representing companies engaged in all aspects of the petroleum industry, including exploration, production, refining, transportation, and marketing. API does not have any outstanding securities in the hands of the public, nor does API have a publicly owned parent, subsidiary, or affiliate.

TABLE OF CONTENTS

	Page
QUESTIONS PRESENTED	i
LIST OF INTERESTED PARTIES	ii
TABLE OF AUTHORITIES	v
OPINION BELOW	1
JURISDICTION	1
STATUTE AND REGULATIONS INVOLVED	2
STATEMENT OF THE CASE	2
Introduction	2
Statutory and Regulatory Background	3
The Final Rule Adopted by EPA	6
Description of CWA Treatment Systems and SDWA Injection Wells	8
EPA's Findings on Aggregation of Characteristic Wastes	9
The Decision of the Court of Appeals	12
REASONS FOR GRANTING THE PETITION	15
I. THE COURT OF APPEALS FAILED TO FOLLOW FUNDAMENTAL PRINCIPLES OF STATUTORY CONSTRUCTION AND DEFERENCE TO AGENCY INTERPRETATIONS	17
A. The Court's Interpretation of RCRA § 3004	18
B. The Court's Interpretation of RCRA § 1006 (b) (1)	21
II. THE COURT OF APPEALS IMPROPERLY DICTATED THE REGULATIONS THAT EPA MUST DEVELOP ON REMAND	23

TABLE OF CONTENTS—Continued

Page

III. THE DISRUPTION WROUGHT BY THE COURT OF APPEALS WILL BE WIDESPREAD, LONG-LASTING, AND ENORMOUSLY EXPENSIVE 25

A. Disruption of Clean Water Act Treatment Practices 25

B. Disruption Of SDWA Injection Well Practices 27

CONCLUSION 29

APPENDIX A

Opinion of the Court of Appeals 1a

APPENDIX B

Order of the Court of Appeals Granting Stay 79a

APPENDIX C

Order of the Court of Appeals Vacating Stay Order 80a

APPENDIX D

Second Order of the Court of Appeals Granting Stay 81a

APPENDIX E

Relevant Statutory Provisions 82a

APPENDIX F

Relevant Portions of Final Rule Involved 92a

TABLE OF AUTHORITIES

Cases — Page

Barker v. Wingo, 407 U.S. 514 (1972) 24
Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc., 467 U.S. 837 (1984) ..... *passim*
Comite Pro Rescate de la Salud v. Puerto Rico Aqueduct & Sewer Authority, 888 F.2d 180 (1st Cir. 1989), *cert. denied*, 494 U.S. 1029 (1990) 22
Department of the Treasury v. Federal Labor Relations Authority, 494 U.S. 922 (1990) 24
Fort Stewart Schools v. Federal Labor Relations Authority, 495 U.S. 641 (1990) 19
Hyatt v. Sullivan, 899 F.2d 329 (4th Cir. 1990) 24
Mistretta v. United States, 488 U.S. 361 (1989) 24
Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, 435 U.S. 519 (1978) .. 24
White House Vigil for the ERA Committee v. Clark, 746 F.2d 1518 (D.C. Cir. 1984) 24

Statutes

28 U.S.C. § 1254(1) 2
33 U.S.C. §§ 1251-1387 3
33 U.S.C. § 1342 8
42 U.S.C. §§ 300f-300j-26 3
Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. § 6901 *et seq.* 2
42 U.S.C. § 6903 ..... 5, 6
42 U.S.C. § 6905 ..... 2, 4, 11, 14, 15, 16, 18, 21
42 U.S.C. § 6921 ..... 2, 5
42 U.S.C. §§ 6922(a), 6923(a)-(b), and 6924(a) 4
42 U.S.C. § 6924 ..... *passim*
42 U.S.C. § 6924(g) 4, 5, 9, 20
42 U.S.C. § 6924(k) 20
42 U.S.C. § 6924(m) 5, 7, 9, 19
42 U.S.C. § 6925(a)-(e) 4
42 U.S.C. § 6976(a) 17
Pub. L. No. 89-272, Title II, 79 Stat. 992 3
Pub. L. No. 94-580, 90 Stat. 2795 3
Pub. L. No. 98-616, 98 Stat. 3221 4

Regulatory Materials

40 C.F.R. §§ 148.20, 268.6 14
40 C.F.R. §§ 261.3(a) (2) (i), 261.20-261.24 5

TABLE OF AUTHORITIES—Continued

	Page
40 C.F.R. §§ 261.3(a) (2) (ii), 261.31-261.33	5
40 C.F.R. § 261.3(d)	5, 6
40 C.F.R. § 268.1(c) (3)	11
40 C.F.R. § 268.3	7, 11
40 C.F.R. § 261.22	6
40 C.F.R. § 268.42	10
40 C.F.R. Parts 405-471	8
53 Fed. Reg. 28,126 (1988)	15
54 Fed. Reg. 48,372 (1989)	6
54 Fed. Reg. 48,491 (1989)	9
55 Fed. Reg. 22,520 (1990)	2, 6
55 Fed. Reg. 22,656	11

In the Supreme Court of the United States

OCTOBER TERM, 1992

No. 92-

CHEMICAL MANUFACTURERS ASSOCIATION and AMERICAN PETROLEUM INSTITUTE, PETITIONERS

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, ET AL.

Petition for a Writ of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

---

PETITION FOR A WRIT OF CERTIORARI

The Chemical Manufacturers Association and the American Petroleum Institute, by their undersigned counsel, petition for a writ of certiorari to review the judgment and opinion of the court of appeals in this case.

OPINION BELOW

The opinion of the court of appeals (App. A) is reported at 976 F.2d 2.

JURISDICTION

The opinion of the court of appeals was entered on September 25, 1992. Respondent EPA filed a timely petition for rehearing on November 9, 1992. The peti-

tion remains pending. The jurisdiction of this Court is invoked under 28 U.S.C. § 1254(1).

STATUTE AND REGULATIONS INVOLVED

The relevant portions of Sections 1006, 3001, and 3004 of the Resource Conservation and Recovery Act, 42 U.S.C. §§ 6905, 6921, 6924, are reprinted in Appendix E. The Final Rule challenged on review in the court of appeals has been codified at 40 C.F.R. Parts 148 and 268, and was published at 55 Fed. Reg. 22,520 (June 1, 1990). The relevant portions of the rule are reproduced in Appendix F.

STATEMENT OF THE CASE

Introduction

This case concerns the D.C. Circuit's unwarranted expansion of the limited judicial role in reviewing the Environmental Protection Agency's interpretation of the Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. §§ 6901 *et seq.* RCRA, in pertinent part, addresses the treatment, storage, and disposal of hazardous wastes.

EPA issued final regulations under RCRA in June of 1990 that allowed industrial plants to continue the long-standing practice of aggregating multiple wastewater streams for centralized treatment or disposal in systems that are extensively regulated by EPA under the Clean Water Act or the Safe Drinking Water Act, without meeting additional requirements under RCRA. The court of appeals overturned those provisions, holding that industrial wastewaters managed under those other statutes must also be treated to meet RCRA standards.

In overturning these key provisions of EPA's final regulations, the court of appeals failed to defer to EPA's interpretation of ambiguous statutory language, in violation of "Step Two" of *Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984). Moreover, the court substituted its own judgment as to

the meaning of that statute by specifying the permissible content of the new regulations EPA must now develop.

The court's multiple errors will have enormously harmful effects for years to come, absent review by this Court. The decision below imposes new RCRA hazardous waste treatment requirements on thousands of centralized wastewater management systems that were designed (and are operated) to meet stringent environmental requirements under the Clean Water Act (33 U.S.C. §§ 1251-1387) and the Safe Drinking Water Act (42 U.S.C. §§ 300f-300j-26). These systems manage billions of gallons per year of dilute nonhazardous industrial wastewater. The imposition of these new RCRA requirements at such facilities will present difficult, if not insuperable, technical challenges, will require the expenditure of millions of dollars at many facilities, and will achieve scant enviromental benefits. These harmful results were not mandated by Congress or by EPA, but are due solely to the actions of the court of appeals.

Statutory and Regulatory Background

Congress enacted RCRA in 1976 to address a wide range of issues relating to the management of solid waste and hazardous waste.[1] Pub. L. No. 94-580, 90 Stat. 2795. Subtitle C of RCRA regulates hazardous waste and gives EPA broad authority: (1) to determine which wastes should be regulated as hazardous, 42 U.S.C. § 6921(a), (b)(1); (2) to establish standards for generators of hazardous waste, transporters of such waste, and owners and operators of facilities that treat, store, or dispose

[1] The method of legislating that Congress chose in RCRA was to enact an amended—indeed, a completely rewritten—version of the Solid Waste Disposal Act, originally passed in 1965. *See* Pub. L. No. 89-272, Title II, 79 Stat. 992. Technically, therefore, the new statutory sections enacted in Section 2 of RCRA are properly known as sections of the Solid Waste Disposal Act. As a matter of common practice, however, EPA and others dealing with RCRA simply refer to the relevant sections as sections of RCRA itself. The court of appeals adopted this convention, and we follow it here.

of such waste, 42 U.S.C. §§ 6922(a), 6923(a)-(b), and 6924(a); and (3) to issue permits for such treatment, storage, or disposal facilities, 42 U.S.C. § 6925(a)-(e).

RCRA contemplated a new federal regulatory program for hazardous waste management at a time when other federal environmental programs, such as those under the Clean Water Act and the Safe Drinking Water Act, were already being implemented. The requirements of these various statutes are complex and far-reaching, and they overlap to a considerable degree. For this reason, RCRA contains an unusual provision in Section 1006(b)(1) that specifically directs EPA to "integrate" the requirements of RCRA with the requirements of numerous other federal environmental statutes, including the Clean Water Act and the Safe Drinking Water Act "to the maximum extent practicable." 42 U.S.C. § 6905(b)(1). The objective of Section 1006(b)(1) was to ensure that in establishing regulations under RCRA, EPA avoided duplication, inconsistency, or disruption of regulatory requirements established under the many other statutes administered by EPA.

Congress substantially amended RCRA in the Hazardous and Solid Waste Amendments of 1984, requiring EPA to promulgate several new sets of regulations dealing with the treatment, storage, and disposal of hazardous wastes. Pub. L. No. 98-616, 98 Stat. 3221. The amendments to Section 3004 defined the term "land disposal" to include the placement of wastes in surface impoundments and injection wells. The 1984 amendments required EPA to review all hazardous wastes and then to promulgate regulations prohibiting land disposal of such wastes, except in accordance with such methods as EPA may determine "will be protective of human health and the environment for as long as the waste remains hazardous . . . ." 42 U.S.C. § 6924(g)(5).

The 1984 amendments also directed EPA to specify treatment standards for each hazardous waste that would "substantially diminish the toxicity of the waste or sub-

stantially reduce the likelihood of migration of hazardous constituents from the waste so that short-term and long-term threats to human health and the environment are minimized." 42 U.S.C. § 6924(m)(1). Once a hazardous waste is treated in accordance with the treatment standards established under Section 3004(m)(1), it may then be land disposed. 42 U.S.C. §§ 6924(g)(5), 6924(m)(2).

This case involves the validity of some of the regulations promulgated by EPA under the amended Section 3004. As we explain below, the regulations at issue represent EPA's considered response to the common situation in which hazardous waste is rendered nonhazardous and is then treated or disposed of in compliance with another federal environmental statute. To appreciate the practical importance of the regulations at issue, and the impact of the decision below, it is necessary to understand the two different categories of hazardous waste under RCRA, and EPA's regulatory approach to the dilution of such wastes.

Under Section 3001 of RCRA, 42 U.S.C. § 6921, there are two routes by which a particular waste may be classified as a hazardous waste. First, "listed wastes" are specific wastes that EPA has determined satisfy the statutory definition of "hazardous waste" in Section 1004(5) of RCRA, 42 U.S.C. § 6903(5). *See* 40 C.F.R. §§ 261.3(a)(2)(ii), 261.31-261.33. A listed hazardous waste generally remains hazardous until it is "delisted" through a procedure prescribed by EPA. 40 C.F.R. § 261.3(d)(2).

Second, so-called "characteristic wastes," which are at issue in this case, are classified as hazardous because they display one or more of a number of specified hazardous characteristics. *See* 40 C.F.R. §§ 261.3(a)(2)(i), 261.20-261.24. To date, EPA has identified hazardous characteristics of corrosivity, reactivity, ignitability, and various kinds of toxicity. These characteristics are phys-

ical attributes of the waste, and their presence is determined by criteria specified in EPA's regulations.[2] A characteristic hazardous waste automatically ceases to be a hazardous waste when it no longer exhibits any of the specified characteristics. 40 C.F.R. § 261.3(d)(1). It is immaterial whether the characteristics are removed through dilution or through some other form of treatment;[3] the waste simply ceases to be a hazardous waste as a matter of law. This principle was taken into account in the design of many industrial wastewater management systems.

Pursuant to the 1984 amendments, EPA in 1986 divided those hazardous wastes that had not been addressed in prior rulemaking into three groups, or "thirds," and commenced the required review process. On November 22, 1989, EPA published its proposed land disposal restriction regulations for the "Third Third," which included all characteristic hazardous wastes. 54 Fed. Reg. 48,372 (1989). On June 1, 1990, EPA published its final rule for the "Third Third" wastes. 55 Fed. Reg. 22,520 (1990). The review of that rule by the court of appeals is at issue here.

The Final Rule Adopted by EPA

In the "Third Third" rule, EPA faced a host of difficult legal, technical, and policy issues concerning the application of the land disposal restrictions to characteristic hazardous wastes. These issues have extraordinary practical importance for American industry, because many thousands of industrial plants produce at least

---

[2] For example, a waste that is either highly acidic or highly alkaline exhibits the characteristic of corrosivity and is therefore a hazardous waste. 40 C.F.R. § 261.22.

[3] RCRA's sweeping definition of "treatment" includes dilution as a method of rendering a waste nonhazardous or less hazardous. RCRA § 1004(34), 42 U.S.C. § 6903(34).

some wastewater that exhibits a RCRA hazardous characteristic, if only briefly.

In developing the "Third Third" rule, EPA had to decide whether to allow dilution to be used to bring characteristic wastes into compliance with the new treatment standards established under Section 3004(m), or whether to require that other methods of treatment be used. It is worth stressing that RCRA does not require, or even mention, such a prohibition on dilution of hazardous wastes. In 1986, EPA adopted, as a matter of policy, a general rule prohibiting the use of dilution as a substitute for adequate treatment or as a means of avoiding or circumventing restrictions on the land disposal of hazardous wastes, and it had applied this general rule to listed hazardous wastes. *See* 40 C.F.R. § 268.3 (1987). In the "Third Third" rulemaking, EPA needed to decide whether and to what extent to apply this general rule to characteristic wastes.

The question whether EPA's general dilution rule should be applied to characteristic wastes was crucial because, unlike listed wastes, characteristic wastes often can be rendered nonhazardous through dilution to remove the relevant physical characteristic. Indeed, as EPA recognized, such dilution frequently occurs in the course of normal industrial operations, as multiple wastewater streams are aggregated before treatment in Clean Water Act systems or disposal in Safe Drinking Water Act injection wells. App. 107a, 110a. The aggregation of different wastewater streams often results in a combined wastewater stream that does not exhibit any hazardous characteristic and would not independently be classified as hazardous under EPA's RCRA regulations. Aggregation also minimizes or eliminates the short-term hazards posed by ignitable, corrosive, or reactive wastes, whose physical properties could otherwise pose significant health and safety risks to workers. In its rulemaking, EPA was faced with the question of whether to disrupt these long-standing practices by applying the dilution prohibi-

tion to aggregation activities. A brief description of these practices is provided below.

Description of CWA Treatment Systems and SDWA Injection Wells

Tens of thousands of industrial plants across the United States operate wastewater treatment systems that properly aggregate, treat, and discharge a wide variety of wastes in compliance with the Clean Water Act's ("CWA") comprehensive regulatory scheme. These systems, which handle billions of gallons of wastewater each year, must comply with stringent technology-based treatment standards set out in EPA regulations, and with federal, state, and often local discharge permits.[4] CWA treatment systems can be exceedingly complex, encompassing many miles of piping and many different kinds of treatment equipment, including tanks and surface impoundments. Many of these systems contain multiple treatment processes, including biological treatment of organic constituents, removal of metals by precipitation, and neutralization of acidic and alkaline materials, prior to discharge of the treated effluent. None of the practices at issue avoids the proper treatment of hazardous wastes.

Similarly, industrial plants that utilize underground injection wells regulated under the Safe Drinking Water Act ("SDWA") are typically designed so that wastewater streams generated on-site are centrally aggregated and pretreated to facilitate injection pursuant to permits issued under the Underground Injection Control ("UIC") program. The large volume of aggregated dilute wastewater, from which all hazardous characteristics have been removed, is then injected by means of "deep wells" into

---

[4] In 1972, the CWA established the National Pollutant Discharge Elimination System ("NPDES") permit program to control the discharge of pollutants into the waters of the United States. 33 U.S.C. § 1342. EPA has issued stringent effluent discharge limitations for numerous industries. 40 C.F.R. Parts 405-471.

geologic formations thousands of feet below the earth's surface, where it will remain isolated for millions of years below the lowermost sources of potentally usable groundwater. The practice is comprehensively regulated under the UIC program under the SDWA, and has been determined by EPA to be safe and effective. App. 109a-113a.

EPA's Findings on Aggregation of Characteristic Wastes

As described above, the aggregation of different wastewater streams for centralized management often removes any hazardous characteristics that may originally have been present in one or more individual streams. Thus, the overall wastewater stream entering the CWA treatment system or the SDWA injection well does not exhibit any hazardous characteristic and would not independently be classified as hazardous under EPA's regulations. The first issue that confronted EPA with respect to such nonhazardous waste streams in the "Third Third" rulemaking was whether they were subject to regulation under RCRA at all, simply because one or more of their component parts once exhibited a hazardous characteristic.

In its proposed rule, EPA recognized that there was a question as to its legal authority to restrict the land disposal of nonhazardous wastes from which any hazardous characteristics had been removed prior to disposal, and it sought comment on this issue. 54 Fed. Reg. 48,491 (1989). Many commenters, including petitioners, argued that EPA lacks authority under RCRA to require further treatment of formerly characteristic hazardous wastes that have been rendered nonhazardous prior to disposal. These commenters pointed out that the land disposal prohibitions in Section 3004(g) speak only to the land disposal of "hazardous wastes," and that the Section 3004(m) treatment standards likewise apply only to "hazardous wastes" that would otherwise be prohibited from disposal.

In the final "Third Third" rule, however, EPA determined that RCRA afforded it some flexibility in determin-

ing the point at which the land disposal restrictions apply to various wastes. According to EPA, Section 3004 of RCRA could be read to apply the land disposal restrictions either at the "point of generation" or at the "point of disposal." App. 98a-100a. EPA explained that the relevant language in Section 3004 of RCRA is ambiguous, and its interpretation of that language was a "permissible" reading of the statute under "Step Two" of *Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984). App. 98a.

Under a "point of generation" approach, the Section 3004 land disposal restrictions can begin to apply as soon as a hazardous waste is generated, so that land disposal cannot occur until RCRA treatment standards are met, even if the waste ceases to be a "hazardous waste" before it is disposed. Under a "point of disposal" approach, on the other hand, the land disposal restrictions would only come into play at the time a waste is disposed. Accordingly, if a waste, or an aggregated stream of wastes, were not hazardous at that point, RCRA's land disposal restrictions simply would not apply.

Having asserted its legal authority over characteristic wastes from their "point of generation," EPA turned to the complex question of how its 1986 general dilution rule should apply to characteristic wastes, including wastes that are rendered nonhazardous before the "point of disposal." For certain characteristic wastes, EPA promulgated a treatment standard of "Deactivation." This standard permitted the use of any treatment method, including dilution, to remove the hazardous characteristic and make the waste eligible for land disposal.[5] 40 C.F.R. § 268.42.

---

[5] The court of appeals vacated EPA's "Deactivation" standard in certain respects. App. 26a-36a.

For other characteristic wastes, however, EPA decided that its 1986 general dilution rule should apply, and that dilution should be prohibited as a substitute for more appropriate treatment. For these wastes, EPA either (i) specified a particular treatment method other than dilution or (ii) adopted a treatment standard expressed in terms of a concentration level, relying on its general dilution rule to prevent that level from being achieved through improper dilution. *See* 55 Fed. Reg. 22,656. Even for these wastes, however, EPA provided two critically important exceptions to the general prohibition against diluting charactersitic hazardous wastes. These are the two exceptions at the heart of this case.

EPA decided that with respect to formerly characteristic wastes that are managed in regulated CWA or SDWA systems, the land disposal restrictions should apply at the "point of disposal," rather than at the "point of generation." App. 106a-113a. EPA concluded that where any hazardous characteristics have been eliminated, through aggregation or otherwise, prior to placement on the land, and where the resulting waste is then managed in compliance with another federal environmental regulatory program, RCRA need not be read to impose any additional and potentially conflicting requirements of its own, such as the dilution prohibition. *Id.* Specifically, EPA determined that once a characteristic waste no longer exhibits any hazardous characteristic *and* it is either (i) treated in a wastewater treatment system regulated under the Clean Water Act, or (ii) disposed of in an underground injection well regulated under the Safe Drinking Water Act, then imposing additional treatment requirements under RCRA is unnecessary as a matter of law and unwarranted as a matter of environmental policy. *See id.*; 40 C.F.R. § 268.3(b) (the CWA exception); § 268.1(c)(3) (the SDWA exception).

In reaching this conclusion, EPA also relied on the integration mandate of Section 1006(b)(1) of RCRA.

EPA determined that the CWA regulatory program already imposes adequate treatment requirements and dilution restrictions on industrial wastewater treatment systems. *See, e.g.*, App. 96a-98a, 106a-109a. Similarly, EPA reasoned that the SDWA regulatory scheme provides ample environmental safeguards for the disposal of nonhazardous wastes in underground injection wells.[6] In both cases, EPA found that applying additional RCRA land disposal restrictions, such as the dilution prohibition, would be needlessly confusing and disruptive to facilities regulated under the other two statutes. *See, e.g.*, EPA "Background Document: Response to Comments on Third Third Proposed Rule," Vol. 3 (May 3, 1990), Doc. No. LD13-50285, at 200, 203, 209, 242, 268-71, J.A. 351, 354, 360, 381 404-07 (EPA agrees that prohibiting dilution of wastes managed under CWA "would have created havoc for industrial wastewater treatment systems" that are environmentally sound and well-regulated). As EPA stated, Section 1006(b)(1) of RCRA gives it "the authority to consider these integration problems and set regulations that are consistent with the goals and policies of the CWA and RCRA." App. 108a.

The Decision of the Court of Appeals

EPA's final "Third Third" rule was challenged by various parties on numerous grounds. Petitioners and others challenged EPA's authority to adopt the "point of generation" approach, arguing that RCRA precluded EPA from regulating wastes that are not hazardous at

---

[6] EPA found that segregating the individual characteristic hazardous wastewater streams for separate treatment under RCRA would yield no environmental benefit at all:

> EPA believes that the application of dilution rules to these wastes would not further minimize threats to human health and the environment. Specifically, EPA believes that disposal of [the relevant wastes] by underground injection at the characteristic level is as sound as the treatment option.

App. 110a.

the point of disposal. On the other hand, the commercial hazardous waste treatment industry and certain environmental groups challenged EPA's decision to allow aggregation of multiple wastewater streams (including characteristic wastes), followed by management of the dilute, nonhazardous aggregated stream in CWA treatment systems or SDWA injection wells. Petitioners herein intervened in support of EPA with respect to this issue.

The court of appeals rejected petitioners' argument that the land disposal restrictions must apply only at the point of disposal and held that EPA can apply the restrictions at the "point of generation." App. 21a-26a. In rejecting petitioners' challenge to the regulation of wastes that are not hazardous at the "point of disposal," the court expressly relied on *Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984), declaring that "[u]nder *Chevron*, unless Congress has spoken directly to these questions, the EPA's determinations are entitled to deference, if reasonable." App. 21a. However, when it turned to EPA's application of its RCRA dilution rules in the context of wastewater management systems regulated under the CWA or the SDWA, the court of appeals disregarded *Chevron* and rejected EPA's interpretation of its statutory authority.

Failing even to mention *Chevron* in this portion of its opinion, the court substituted its own interpretation of Section 3004 for EPA's and held that EPA must apply the "point of generation" approach to the formerly characteristic wastes at issue here. The court summarily dismissed EPA's interpretation of Section 3004 of RCRA as allowing the land disposal restrictions to apply to the wastes at issue at the "point of disposal." App. 37a-55a. As a result of the court's ruling, EPA has no choice but to subject dilute wastewaters entering CWA treatment systems or SDWA injection wells to the additional treatment requirements developed by EPA under RCRA, even though such wastewaters no longer exhibit any hazard-

ous characteristic and are not RCRA hazardous wastes as a matter of law.

Similarly, the court of appeals rejected EPA's carefully considered decision to integrate the requirements of RCRA with those already in force under the CWA and the SDWA. The court brushed aside EPA's obligation to integrate RCRA with these other environmental statutes pursuant to RCRA § 1006(b)(1), overturning EPA's approach and substituting its own extremely narrow view of "integration."

With respect to the Clean Water Act, the court held that formerly characteristic wastewaters may be placed in CWA treatment systems containing surface impoundments "*if and only if*" they are then treated "*to the same degree*" as RCRA would require for wastes that were actually hazardous. App. 47a (emphasis in original), 45a (emphasis in original). According to the panel, RCRA § 1006(b)(1) allows no modification of RCRA treatment standards to suit the circumstances of Clean Water Act treatment facilities. App. 48a. The court never acknowledged the arguments made by both EPA and petitioners that, due to considerations of technical feasibility, engineering complexity, and economic achievability, applying the dilution prohibition was simply unworkable for the tens of thousands of industrial plants that operate Clean Water Act treatment systems. EPA Br. at 64-67; Industry Intervenors Br. at 38.

With respect to the Safe Drinking Water Act, the court held that formerly characteristic wastewaters may be placed in underground injection wells only where dilution itself meets the RCRA treatment standard, or where the deep well secures a "no-migration" variance.[7] The court shrugged off EPA's obligation to integrate

---

[7] Under 40 C.F.R. §§ 268.6 and 148.20, a land disposal facility may be exempted from RCRA's land disposal restrictions if the operator

RCRA requirements and SDWA requirements under RCRA § 1006(b)(1). Again, the court disregarded the arguments advanced by both EPA and petitioners that many SDWA facilities would likely be unable to continue operating—or at the least would be subjected to massive, unnecessary disruption and expenditure—absent EPA's limited exception to the dilution prohibition. EPA Br. at 71-75; Industry Intervenors Br. at 20-24.[8] Indeed, the court dismissed these concerns as "simply irrelevant." App. 55a.

In response to an unopposed joint motion by all parties to stay the court's mandate, the court of appeals initially stayed its mandate for 90 days, through February 11, 1993 (App. B). Subsequently, the court *sua sponte* vacated its stay order (App. C), and a divided panel then entered a substitute order granting a stay only through January 5, 1993 (App. D). The order noted that Judge Edwards would have denied the motion in its entirety.

Respondent EPA filed a timely petition for rehearing with respect to certain aspects of the court's decision on November 9, 1992. That petition is still pending.

REASONS FOR GRANTING THE PETITION

This case presents questions of extraordinary practical importance concerning the reach of RCRA's hazardous waste regulations and the limited role of the courts in reviewing such regulations. The decision below effectively compels EPA to impose RCRA treatment requirements on billions of gallons of dilute wastewater

---

can demonstrate "to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the disposal unit or injection zone for as long as the wastes remain hazardous."

[8] Furthermore, the court's assumption that "injected wastes are not treated further," App. 53a, ignores without justification the substantial transformation and detoxification of these wastes that occur after injection. *See* App. 110a-111a; 53 Fed. Reg. 28,126 (July 16, 1988).

generated each year at many thousands of industrial plants across the United States. This wastewater is already extensively regulated under the Clean Water Act and the Safe Drinking Water Act. There is no evidence that Congress intended to compel EPA to impose additional treatment requirements under RCRA. EPA determined that further treatment of such wastewater is not required as a matter of law and makes no sense as a matter of environmental policy. But the court of appeals failed to defer to EPA's reasonable interpretation of RCRA and instead took matters into its own hands.

The decision below robs EPA of the substantial discretion that Congress conferred upon it in RCRA, both as to determining under what circumstances land disposal should be permitted and as to integrating the requirements of several potentially conflicting environmental statutes. The decision also flies in the face of this Court's precepts about the proper scope of judicial review under the *Chevron* doctrine.

Because the provisions of RCRA do not clearly and unambiguously require the results reached by the court of appeals, this case must be resolved under "Step Two" of the *Chevron* doctrine. But contrary to "Step Two" of *Chevron*, the court of appeals failed to defer to EPA's interpretation of ambiguous provisions in Section 3004 of RCRA. It also rejected EPA's careful "integration" of three separate environmental regulatory programs, thereby depriving Section 1006(b)(1) of RCRA of any vitality. Indeed, the court of appeals virtually prescribed the contents of the new rules EPA must now develop in short order to replace those that were overturned.

Unfortunately, the court of appeals did not appreciate the consequences of its actions. The decision below imposes new RCRA treatment standards on many thousands of centralized wastewater management systems that are designed and operated to meet stringent environmental requirements under the Clean Water Act and the Safe

Drinking Water Act. Bringing these systems into compliance with RCRA will be a protracted, difficult, and costly process. The aggregate cost to society of this startling regulatory expansion will be measured in the billions of dollars, but the environmental benefits will be slight. The court of appeals is ill-equipped to make policy choices of this magnitude.

The D.C. Circuit is the only court of appeals that may review RCRA regulations issued by EPA. 42 U.S.C. § 6976(a) (1988). As a result, there will be no further consideration by the lower federal courts of the issues decided below, and no conflict among the circuits can ever arise over EPA's interpretation of RCRA. The court of appeals' errors will be lasting, in the absence of review by this Court, and its improper mode of judicial review may well infect the review of other actions taken by EPA and other agencies.

I. THE COURT OF APPEALS FAILED TO FOLLOW FUNDAMENTAL PRINCIPLES OF STATUTORY CONSTRUCTION AND DEFERENCE TO AGENCY INTERPRETATIONS.

The court of appeals largely disavowed the principles that govern judicial review of agency action under *Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984). Under "Step One" of *Chevron*, of course, the reviewing court first considers "whether Congress has directly spoken to the precise question at issue." 467 U.S. at 842. Where "Congress has not directly addressed the precise question at issue," then "Step Two" of *Chevron* provides that "the question for the court is whether the agency's answer is based on a permissible construction of the statute." 467 U.S. at 843.

In overturning EPA's limited exceptions to the dilution prohibition, the court of appeals twice failed to honor "Step Two" of *Chevron*. First, it rejected EPA's interpretation of RCRA § 3004, under which EPA may

apply the land disposal restrictions at the "point of disposal," rather than at the "point of generation," under appropriate circumstances. Second, it discarded EPA's reading of RCRA § 1006(b)(1), which affirmatively commands EPA to integrate its RCRA regulations with the requirements of the Clean Water Act, the Safe Drinking Water Act, and several other environmental statutes. Thus, although the decision below will impose very substantial costs on our society, "it was the Court of Appeals, rather than Congress or any of the decisionmakers who are authorized by Congress to administer the legislation, that was primarily responsible for" this result. 467 U.S. at 864.

A. The Court's Interpretation of RCRA § 3004

Petitioners and others argued in the "Third Third" rulemaking that if a waste is not hazardous at the "point of disposal," then EPA lacks authority under RCRA to apply its land disposal restrictions to that waste. EPA rejected this view and concluded that the pertinent language in RCRA § 3004 is ambiguous, giving EPA some flexibility in applying the land disposal restrictions to various wastes at either the "point of disposal" or the "point of generation."

In the court of appeals, petitioners continued to maintain their reading of the statute, and they further argued that even if the statutory interpretation they urged was not clearly mandated by Congress, then, at a minimum, EPA's more flexible interpretation is permissible under "Step Two" of *Chevron*. Petitioners—and EPA—contended, therefore, that EPA was justified in applying the "point of disposal" approach in crafting exceptions to the dilution prohibition, where those exceptions would allow continued aggregation of wastewaters so as to remove any hazardous characteristics prior to centralized

management in CWA treatment systems or SDWA injection wells, without unnecessarily subjecting those wastewaters to the Section 3004(m) treatment standards.

The court of appeals, however, rejected EPA's approach and declared that EPA should apply its RCRA land disposal restrictions to wastewater streams that once exhibited a hazardous characteristic at the "point of generation," regardless of whether they are actually hazardous at the "point of disposal." As a result, the court held that such wastewaters must satisfy RCRA § 3004(m) treatment standards, and that if those standards cannot be satisfied by means of dilution, other treatment methods must be used. This conclusion, reached without reference to *Chevron* and without analysis of the relevant statutory provisions, is nothing more than judicial legislation.

Unfortunately, the court of appeals passed over virtually all of the statutory provisions supporting the "point of disposal" approach and concluded that a "point of generation" approach was required. The court of appeals disregarded most of the relevant language in RCRA, describing it as a "welter" of statutory terms, and focused solely on a single phrase in Section 3004(m)(1).[9] App. 21a. The court of appeals thus failed to meet its obligation to consider the relevant statutory language as a whole in order to determine if Congress clearly spoke to the "precise issue" in question. *Fort Stewart Schools v. Federal Labor Relations Authority*, 495 U.S. 641, 645 (1990) (in determining if the intent of Congress is clear, "the particular statutory language

---

[9] The court of appeals emphasized that treatment standards adopted under § 3004(m)(1) are to "minimize" threats from hazardous wastes that are land disposed. But the court's references to § 3004(m)(1) as the "heart" and the "core" of RCRA, App. 56a, 44a, find no support in the statute. And the court ignored other provisions of RCRA—cited below by the parties—that limit the reach of the § 3004(m)(1) treatment standards to wastes that are still hazardous at the "point of disposal."

at issue, as well as the language and design of the statute as a whole" are to be considered).

The key statutory provision is Section 3004(g)(5) of RCRA, 42 U.S.C. § 6924(g)(5), which directs EPA to prohibit "one or more methods of land disposal of the *hazardous wastes*" covered by subsection (g), which includes characteristic hazardous wastes. (Emphasis added.) This provision then authorizes EPA to provide exceptions for those "methods of land disposal which [EPA] determines will be protective of human health and environment *for as long as the waste remains hazardous* . . . ." (Emphasis added.) Finally, Section 3004(g)(5) recognizes another exception for any "*hazardous waste* which *has complied with the pretreatment regulations* promulgated under subsection (m) . . . ." (Emphasis added.)

Plainly, the principal (if not exclusive) focus of Section 3004(g)(5) is on the disposal of waste that is hazardous at the time of disposal. Thus, EPA acted reasonably in choosing to limit the application of its RCRA land disposal restrictions—including the general dilution rule—in situations where wastes would be rendered nonhazardous prior to land disposal and would then be managed in accordance with the CWA or the SDWA.

The point is confirmed by numerous other provisions of RCRA. Indeed, Subtitle C of RCRA as a whole limits EPA's regulatory authority to "hazardous waste." Section 3004 is part of Subtitle C, and it consistently uses the term "hazardous waste" in describing the land disposal restrictions. For example, Section 3004(k) defines the critical term "land disposal" as "any *placement* of . . . *hazardous waste* in a landfill, surface impoundment, waste pile, [or] injection well . . . ." (Emphasis added.) Because "placement" refers to the actual deposit of waste into the disposal unit, the natural reading of this definition is that "land disposal" refers only to wastes that are hazardous at the time of disposal.

In sum, RCRA cannot be read as compelling EPA to use a "point of generation" approach in all circumstances and apply its land disposal restrictions to wastewater that is no longer hazardous at the point of disposal. EPA's decision to use a "point of disposal" approach for formerly characteristic wastes managed in CWA or SDWA systems was plainly permissible under "Step Two" of *Chevron*, and should have been upheld.

B. The Court's Interpretation of RCRA § 1006(b)(1)

Section 1006(b)(1) of RCRA specifically commands EPA to "integrate" [10] all provisions of RCRA with the provisions of the other environmental statutes administered by EPA, including the Clean Water Act and the Safe Drinking Water Act, to avoid unnecessary disruption or duplication. Although Congress directed that this integration be accomplished "to the maximum extent practicable" and "consistent with the goals and policies" of the statutes involved, it plainly left to EPA's expert judgment the details of *how* these complex provisions should be harmonized. On its face, then, EPA's interpretation of Section 1006(b)(1) in the "Third Third" rule presents a *Chevron* "Step Two" question.

In considering whether or not to disrupt (by applying its RCRA general dilution rule) the widespread and environmentally beneficial practices of aggregating wastewaters for centralized management in CWA treatment systems and SDWA injection wells, EPA correctly observed that Section 1006(b) "provides EPA the authority to consider these integration problems and set regulations that are consistent with the goals and policies of the CWA and RCRA." App. 108a. As noted earlier, EPA made specific findings that the approach taken in the "Third Third" final rule properly integrated the re-

---

[10] The word "integrate" means "to form into a more complete, harmonious, or coordinated entity often by the addition or arrangement of parts or elements." Webster's Third New International Dictionary 1174 (1966).

quirements and promoted the purposes, of all three statutes.[11] App. 94a, 102a-103a.

EPA's final "Third Third" rule faithfully implemented Congress's explicit directive to "integrate" the requirements of these three environmental statutes. It should have been upheld as a "permissible" reading of RCRA under "Step Two" of *Chevron*. Yet without even mentioning *Chevron*, the court of appeals overturned EPA's decision to integrate the requirements of RCRA, the CWA, and the SDWA in order to allow centralized management of industrial wastewaters to continue.

The court of appeals thus departed once again from the mode of judicial review prescribed by *Chevron*. EPA's "Third Third" rulemaking fits precisely this Court's description of the controversy it faced nearly a decade ago in *Chevron* itself:

> In these cases the Administrator's interpretation represents a reasonable accommodation of manifestly competing interests and is entitled to deference: the regulatory scheme is technical and complex, the agency considered the matter in a detailed and reasoned fashion, and the decision involves reconciling conflicting policies. Congress intended to accommodate both interests, but did not do so itself on the level of specificity presented by these cases.

467 U.S. at 865. By striking down EPA's "reasonable accommodation of manifestly competing interests," the

---

[11] EPA, of course, administers all three statutes, and is thus entitled to considerable deference in discerning their purposes. As the First Circuit observed in a similar setting, the interaction of RCRA and CWA raises "the very sort of interstitial legal question" that should be answered by EPA, not by a reviewing court. EPA alone has "the experience that will permit it properly to mesh these related statutes, both to avoid senseless or overly harsh results, and better to fulfill their overall environmental objectives." *Comite Pro Rescate de la Salud v. Puerto Rico Aqueduct & Sewer Authority*, 888 F.2d 180, 186 (1st Cir. 1989) (Breyer, J.), *cert. denied*, 494 U.S. 1029 (1990).

court of appeals plainly exceeded the permissible scope of judicial review.

II. THE COURT OF APPEALS IMPROPERLY DICTATED THE REGULATIONS THAT EPA MUST DEVELOP ON REMAND.

The court of appeals was not content to vacate EPA's permissible interpretations of RCRA's ambiguous provisions. Instead, the court compounded its error by specifying the content of the new rules EPA must now develop to replace those set aside in this case. This was judicial rulemaking, pure and simple.

With respect to CWA treatment systems, the court of appeals decided that RCRA's "integration" mandate allows EPA to modify the *timing* of RCRA treatment, but not the *extent* of that treatment. If wastewaters are aggregated for centralized treatment in a CWA system, according to the decision below, they must be treated "*to the same degree*" as they would be treated in a RCRA system. App. 45a (emphasis in original). The effect of this pronouncement is to foreclose prematurely some of EPA's options for responding to the court's decision.

For example, EPA may wish to consider on remand whether to develop separate RCRA treatment standards for the wastewaters at issue here based on the kind of treatment equipment actually found in CWA wastewater treatment systems. Nothing in either statute precludes the adoption of RCRA treatment standards that are tailored to the circumstances of CWA facilities. Yet the court of appeals went out of its way to opine that "nothing in RCRA or the CWA permits the EPA to establish different treatment standards when wastewaters are treated in CWA systems instead of facilities operated solely to RCRA standards." App. 44a. This ill-considered pronouncement condemns EPA and American industry

to a long and difficult struggle, as the square peg of RCRA will not fit in the round hole of the CWA.[12]

The court of appeals' foray into judicial rulemaking was clearly improper. Although the D.C. Circuit has the power to vacate and remand rules that it determines are contrary to law, it has no authority to dictate the content of replacement rules. As this Court pointed out in *Department of the Treasury v. Federal Labor Relations Authority*, 494 U.S. 922 (1990):

> When an agency is charged with administering a statute, part of the authority it receives is the power to give reasonable content to the statute's textual ambiguities. That is a task infused with judgment and discretion, requiring the "'accommodation of conflicting policies that were committed to the agency's care.'" It is not a task we ought to undertake on the agency's behalf in reviewing its orders.

Id. at 933 (citations omitted).

It is not for courts to redraft regulations, but for regulatory agencies. *See Barker v. Wingo*, 407 U.S. 514, 523 (1972) (courts should confine their efforts to adjudication, not legislation or rulemaking); *White House Vigil for the ERA Committee v. Clark*, 746 F.2d 1518, 1541 (D.C. Cir. 1984) (judicial "finetuning" of regulatory mechanism is impermissible); *Hyatt v. Sullivan*, 899 F.2d 329, 336 n.8 (4th Cir. 1990) (vacating portions of district court orders specifying action agency was to take, leaving it to the agency in the first instance to draft rules); *see also Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council*, 435 U.S. 519 (1978) (court of appeals improperly engaged in procedural rulemaking).[13] Accordingly, the court of appeals exceeded its

---

[12] The consequences for SDWA injection wells will be equally harmful.

[13] In *Mistretta v. United States*, 488 U.S. 361, 387-88 (1989), the Court explained that federal courts may only engage in rulemaking

authority by prescribing the permissible content of EPA rules, rather than simply remanding the rules it viewed as unlawful.

III. THE DISRUPTION WROUGHT BY THE COURT OF APPEALS WILL BE WIDESPREAD, LONG-LASTING, AND ENORMOUSLY EXPENSIVE.

The decision below will impose new RCRA treatment requirements on many thousands of centralized wastewater management systems that are designed and operated to comply with Clean Water Act treatment standards and Safe Drinking Water Act requirements. Bringing these systems into compliance with RCRA, where that is possible, will require a multi-billion dollar, multi-year program of engineering and construction projects. Unfortunately, the resulting environmental benefits will be slight.

The court of appeals' decision will plainly jeopardize the interests of many companies that are members of petitioners, the Chemical Manufacturers Association ("CMA") and the American Petroleum Institute ("API"). CMA's members represent more than 90 percent of the productive capacity for basic industrial chemicals in the United States. API's members include nearly 200 companies engaged in the production, refining, and marketing of petroleum products. Together, these trade associations represent hundreds of industrial facilities currently managing wastewaters in CWA treatment systems and underground injection wells. Many of those facilities will be profoundly harmed by the decision below.

A. Disruption of Clean Water Act Treatment Practices

The court of appeals' decision will fundamentally disrupt current wastewater management practices at many

---

when Congress confers such authority on them, and may only engage in rulemaking functions "that do not trench upon the prerogatives of another Branch and that are appropriate to the central mission of the Judiciary."

thousands of Clean Water Act facilities throughout the nation. In defending its final rule below, EPA emphasized that restricting aggregation would have tremendously disruptive effects on existing, well-managed CWA wastewater treatment systems. Indeed, EPA specifically argued that these CWA treatment systems would have no meaningful compliance options if the RCRA general dilution rule were applied to them. Responding to several options suggested by the commercial hazardous waste treatment industry and certain environmental groups, EPA pointed out that:

> As the record demonstrates, application of dilution rules under these circumstances would be enormously disruptive. A dilution prohibition could require a complete revamping of these systems to provide for separate analysis of each waste stream and separate treatment either on- or off-site. It could also lead to significant regulatory disruption by subjecting these facilities for the first time to wide-ranging regulatory requirements under subtitle C (*e.g.*, increased testing, recordkeeping, and possible controls on the surface impoundments themselves, as NRDC Petitioners suggest here). *The alternatives to centralized wastewater treatment*, blithely mentioned, do not address these concerns and *are in any event impractical and nonsensical.*

EPA Br. at 64-65 (emphasis supplied, citations omitted). EPA then went on to refute specifically each of the "options" proposed by the NRDC petitioners, demonstrating that each would be impractical (if not impossible). *Id.* at 65-67. Industry intervenors, including petitioners herein, echoed this argument in their separate brief. Industry Intervenors Br. at 38. The NRDC petitioners made no attempt in their reply brief to argue that their proposed alternatives were in fact practical or feasible in the real world. NRDC Reply Br. at 21-28.

Unfortunately, the court of appeals took no heed of the disruption to CWA systems that would flow from

overturning EPA's final rule. And the new "compliance option" fashioned by the court of appeals—treating CWA wastewaters "to the same degree" as RCRA hazardous wastes—is just as "impractical and nonsensical" as the options already addressed by EPA and the industry intervenors below. EPA Br. at 65.[14]

The court of appeals' approach will have the practical effect of prohibiting aggregation for many CWA facilities, due to the current impossibility of performing later treatment "to the same degree" as that required under RCRA. In order to continue aggregating their wastewater streams, industrial plants will be required to modify their CWA treatment systems, at great expense, while maintaining at all times the current level of treatment efficiency that enables them to comply with their stringent CWA permits. As EPA and industry intervenors explained below, the other purported compliance options (segregation for separate treatment, replacement of surface impoundments with tank-based systems, or no-migration petitions) are equally impractical, and in any case would require huge expenditures and years to accomplish.

In sum, the decision below exposes thousands of industrial plants to the prospect of violating newly applicable RCRA treatment requirements for several years, even as they expend millions of dollars per plant in an effort to achieve compliance.

B. Disruption of SDWA Injection Well Practices

As described above, the court of appeals essentially rescinded EPA's limited exception to the dilution provision for underground injection wells. This judicial rule

---

[14] No party to the litigation advocated the approach adopted by the court of appeals. Indeed, the court's "compliance option" reflects considerable confusion over the interaction between RCRA and the CWA.

change will severely disrupt current management practices for these nonhazardous wastes, and will force industry to perform burdensome reengineering efforts, with little discernible benefit to human health or the environment.

In order to continue underground injection at all, many facilities will be required to segregate multiple wastewater streams for separate treatment before aggregation and injection. Segregation of characteristic waste streams will be a tremendously difficult, if not impossible, task in the massive, complex facilities that have intentionally been designed and built from the ground up to facilitate environmentally safe centralized management of process wastes. Once wastes have been segregated and collected, manufacturers will have to construct and seek permits for treatment facilities on site, or ship wastes off site to commercial facilities. Due to the truly enormous volumes of wastewater involved at some manufacturing plants, transportation to off-site treatment facilities would be impossible; at other plants, it would require the immediate availability of dedicated pipelines, or large fleets of rail cars or tanker trucks running around the clock.

Moreover, forcing the segregation and separate treatment of characteristic wastewaters would pose increased health and safety risks to workers, because it would increase exposure to the corrosive, ignitable, and reactive materials in their original, untreated form. Prior to the court's decision, these hazards were minimized through aggregation, which removed the hazardous characteristics at the earliest possible opportunity.

The only alternative to redesign, retrofitting, and rebuilding would be for injection wells to file "no-migration" petitions under 40 C.F.R. Part 148, and to seek approval as hazardous waste injection facilities in order to inject nonhazardous, formerly characteristic wastes. But, as EPA recognized, "[t]he petition process . . . has been very time consuming and resource inten-

sive." App. 112a. This would present an enormous, unnecessary burden to operators who "[h]ave not had reason to believe that their operations would be subject to the land disposal restrictions and have not submitted variance petitions." *Id.*

Accordingly, the court of appeals' decision subjects facilities currently using injection wells for injection of aggregated, nonhazardous wastes to tremendous burdens, including the risk of temporary shutdown pending a "no-migration" petition, or permanent shutdown if a "no-migration" variance cannot be obtained or is not economically feasible.

CONCLUSION

The petition for a writ of certiorari should be granted.

Respectfully submitted,

DAVID F. ZOLL
RONALD A. SHIPLEY
CHEMICAL MANUFACTURERS ASSOCIATION
2501 M Street, N.W.
Washington, D.C. 20037
(202) 887-1160

G. WILLIAM FRICK
RALPH J. COLLELI, JR.
AMERICAN PETROLEUM INSTITUTE
1220 L Street, N.W.
Washington, D.C. 20005
(202) 682-8252

MICHAEL W. STEINBERG *
PETER BUSCEMI
HUNTER L. PRILLAMAN
MORGAN, LEWIS & BOCKIUS
1800 M Street, N.W.
Washington, D.C. 20036
(202) 467-7141

January 5, 1993

* Counsel of Record

APPENDICES

APPENDIX A

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

Argued April 30, 1992 Decided September 25, 1992

No. 90-1230, *et al.*
"COMPLEX"

CHEMICAL WASTE MANAGEMENT, INC., *et al.*,
Petitioners

v.

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY,
Respondent

ZINC CORPORATION OF AMERICA, *et al.*,
Intervenors

Consolidated cases 90-1245, 90-1275, 90-1303, 90-1314, 90-1330, 90-1404, 90-1410, 90-1413, 90-1414, 90-1416, 90-1417, 90-1423, and 90-1442

Petitions for Review of Orders of the
Environmental Protection Agency

David R. Case, with whom *Eli D. Eilbott* (for Hazardous Waste Treatment Council), *Karen L.*

Florini (for Environmental Defense Fund). *A. Blakeman Early* (for Sierra Club), and *Jacqueline M. Warren* and *Douglas Wolf* (for Natural Resources Defense Council) were on the joint brief, for petitioners in Nos. 90-1230, 90-1245, and 90-1417 and intervenors in consolidated cases. *Jane L. Bloom* and *J. Brian Malloy* also entered appearances.

Michael W. Steinberg (for Chemical Manufacturers Ass'n), *Richard A. Flye* (for The Fertilizer Institute, *et al.*), and *Angus Macbeth* (for Chemical Waste Management, *et al.*), with whom *Hunter Prillaman, David F. Zoll, Ronald Shipley, Robert F. VanVoorhees,* and *Barton D. Day* (for Chemical Manufacturers Ass'n), *Gordon D. Quin* (for The Fertilizer Institute), *G. William Frick* and *Ralph J. Colleli, Jr.* (for American Petroleum Institute), *Kurt J. Alson* (for RSR Corporation), *John N. Hanson* and *Donald J. Patterson, Jr.* (for American Mining Congress), *Aaron H. Goldberg* (for American Mining Congress, American Iron and Steel Institute, and Dow Chemical Co.), *Karl S. Bourdeau* (for American Iron and Steel Institute), *Cynthia H. Evans* (for American Paper Institute and the National Forest Products Ass'n), *William M. Guerny, Jr.* (for Specialty Steel Industry of the United States), *Thomas G. Echikson* (for Chemical Waste Management, Inc.), *William R. Weissman* and *Douglas H. Green* (for Edison Electric Institute), and *Karl S. Bordeau* (for Dow Chemical Co.) were on the joint brief, for industry petitioners/intervenors in all cases. *Lynn L. Bergeson, Susan S. Schmedes, Paul E. Shorb III, Barton C. Green, Carole Stern, Edward M. Green, Roderick T. Dwyer, John L. Wittenborn, Paul M. Bork, Steven I. Hauseal, Thomas McCormich, Nancy D. Tammi, Arline M. Sheehan,* and *Howard B. Myers* also en-

tered appearances for industry petitioners/intervenors.

Edwin H. Seeger and *Kurt E. Blase* entered appearances for petitioner Exide Corp., Inc., in No. 90-1303.

Paul E. Gutermann and *John N. Moore* entered appearances for petitioners Horsehead Resource Development Co., Inc., and Zinc Corporation of America in No. 90-1413 and intervenors in Nos. 90-1404, 90-1410, 90-1414, 90-1416, 90-1417, and 90-1423.

Gwendolyn G. Logan, *Stephen E. Roady*, and *M. Barry Meyer* entered appearances for petitioner the Aluminum Ass'n in No. 90-1442 and intervenor in No. 90-1245.

Mary Elizabeth Ward, Attorney, U.S. Department of Justice, and *Stephen E. Silverman*, Attorney, Environmental Protection Agency ("EPA"), with whom *Barry M. Hartman*, Acting Assistant Attorney General, *Gretchen Slosser Pirasteh*, Attorney, U.S. Department of Justice, and *Raymond Ludwiszewski*, Acting General Counsel, EPA, were on the brief, for respondents in all cases. *Richard B. Stewart*, *Peter W. Colby*, *Christopher S. Vaden*, *Thomas R. Bartman*, and *Mandan Kenkermath* also entered appearances for respondents.

Robert F. VanVoorhees for intervenors Chemical Manufacturers Ass'n, *et al.*

Aaron H. Goldberg for intervenors American Iron and Steel Institute, *et al.*

Gerald L. Richman and *Paul M. Donovan* entered appearances for intervenor Chlorine Institute in all cases except No. 90-1230.

Robert N. Steinwurtzel and *Jeffrey S. Halik* entered appearances for intervenors Secondary Lead Smelters Ass'n, Inc., and Association of Battery Recyclers in Nos. 90-1245 and 90-1314.

Corinne A. Goldstein and *Guy V. Johnson* entered appearances for intervenors National Association of Metal Finishers and E. I. duPont deNemours & Co. in No. 90-1245.

David B. Weinberg and *Kurt J. Olson* entered appearances for intervenor Battery Council International in all cases except No. 90-1230.

Leonard A. Miller and *Robert S. Taylor* entered appearances for intervenor Allied-Signal, Inc., in No. 90-1245.

C. Howard Hardesty, Jeffrey S. Halik, and *P. Burton Gray* entered appearances for intervenor Institute of Makers of Explosives in Nos. 90-1245 and 90-1330.

Edwin H. Seeger, Jurt E. Blase and *Michael A. Poling* entered appearances for intervenors Lead Industries Ass'n, Inc., and Cadmium Council, Inc., in Nos. 90-1245 and 90-1417.

Carole Stern entered appearances for intervenors Thiakol Corp. and Olin Corp. in Nos. 90-1275 and 90-1303.

Before EDWARDS, BUCKLEY, and HENDERSON, *Circuit Judges.*

Opinion PER CURIAM.

PER CURIAM: The Hazardous and Solid Waste Amendments of 1984 instituted a ban on the land disposal of classes of hazardous wastes unless certain conditions are met. Those amendments require the

Environmental Protection Agency to follow a phased schedule for implementing the ban. In this case we consider various challenges to regulations implementing the final portion of this program, the so-called "third-third" rule, which largely covers the land disposal of wastes deemed hazardous because they possess certain defined characteristics.

Various petitioners raise multi-faceted challenges. A group of industry trade associations and companies [1] (collectively, "industry petitioners") seek review of regulations mandating levels of treatment before land disposal that go beyond the removal of the attribute that led to the waste's classification as hazardous. These petitioners claim that the EPA lacked authority under the statute to require treatment to such levels. The Fertilizer Institute raises procedural and substantive objections to provisions that bar dilution of certain wastes as a form of treatment prior to discharge into the waters of the United States from treatment facilities licensed under the Clean Water Act. Finally, three companies attack the imposition of new testing requirements at disposal facilities as arbitrary and insufficiently clear.

We deny each of these petitions for review. Sections 3004(g)(5) and (m) of the Resource Conservation and Recovery Act ("RCRA")[2] (which are re-

---

[1] American Iron and Steel Institute, American Mining Congress, American Paper Institute, American Petroleum Institute, Chemical Manufacturers Association, National Forest Products Association, RSR Corporation, Specialty Steel Industry of the United States and The Fertilizer Institute. The Dow Chemical Company and the Edison Electric Institute have intervened in support of the petition.

[2] A glossary of acronyms and abbreviations is provided in Appendix B at the conclusion of this opinion.

printed in Appendix A hereto) give the EPA the statutory authority to mandate the treatment of wastes to levels beyond those at which the wastes present the characteristics that caused them to be deemed hazardous. The EPA provided adequate notice of its intent to bar dilution of certain hazardous wastes at water treatment facilities that meet the standards of the Clean Water Act facilities. The regulations provide sufficient guidance as to how this part of the rule will work, and the distinction drawn between types of hazardous wastes appears reasonable. The challenge by the individual companies to testing protocols established in this rule is rejected. The procedures are both clear and reasonable.

Several environmental organizations, as well as the Hazardous Waste Treatment Council, an association representing companies that treat hazardous waste (collectively, "NRDC petitioners"), present different objections. They assert that (1) the new rule's "deactivation" treatment standard impermissibly allows the dilution, rather than treatment with specified technologies, of many characteristic wastes prior to land disposal; (2) the rule authorizes placement of untreated formerly characteristic wastes in surface impoundments within Clean Water Act treatment systems, or into underground injection wells, in violation of RCRA; (3) it arbitrarily created treatment standards for chromium and lead wastes; and (4) the rule provides an exception to treatment standards for wastes burned in industrial furnaces along with wastes exempted by the Bevill Amendment that violates that provision. In addition, the Council and Chemical Waste Management, Inc., a large waste disposal company, challenge certain testing procedures imposed by the regulations as impermissibly vague.

The petitions brought by NRDC petitioners are granted in part and denied in part. Under the statute, dilution of characteristic hazardous wastes may constitute treatment, but only if no hazardous constituents are present following dilution that would endanger human health or the environment. The EPA concedes that dilution will not attain this result for certain characteristic wastes. For others, it has not made clear that dilution will meet the requirements for treatment. The standard is therefore vacated as to those wastes. The dilution of wastes in Clean Water Act facilities is acceptable so long as the toxicity of the waste discharged from the facility is minimized or eliminated consistent with RCRA. Similarly, disposal of wastes in underground injection wells may occur as long as the hazardous characteristics have been eliminated and any health and environmental dangers posed by hazardous constituents of the wastes are minimized.

We remand the lead and chromium standards because the EPA appears to have relied on data that does not support its conclusions. We also remand the exemption from regulation under Subtitle C of RCRA of wastes burned with wastes exempted under the Bevill Amendment for consideration in an ongoing rulemaking addressing that question. Finally, Chemical Waste Management's petition for review of test compliance procedures is denied. Testing procedures will be embodied in permits. Uncertainties over the standards can be resolved in the permit-writing process.

TABLE OF CONTENTS

I. STATUTORY AND REGULATORY BACKGROUND .....

II. TREATMENT STANDARDS FOR CHARACTERISTIC WASTES .....

A. Proposed Rule .....

B. Final Rule .....

C. Standard of Review .....

D. Industry Petitioners' Challenge to the Treatment Standards .....

E. NRDC Petitioners' Challenge to Deactivation Treatment Standard .....

1. Ignitable Wastes .....

2. Corrosive Wastes .....

3. Reactive Wastes .....

III. THE EPA'S DILUTION RULES .....

A. Clean Water Act Treatment Systems .....

1. Background .....

2. Analysis .....

B. Deep Injection Wells Regulated Under the Safe Drinking Water Act .....

1. Generally .....

2. The Treatment Standard for Lead Wastewaters .....

C. The Fertilizer Institute's Challenges to the Dilution Rules .....

1. Notice and Opportunity to Comment .....

2. Is the Rule Impermissibly Vague? .....

3. Should Rule 268.3(b) Include Listed Wastes for which the EPA has Developed Concentration-Based Treatment Standards? .....

IV. MISCELLANEA .....

A. Corroborative Testing .....

B. Treatment Standards for Chromium Wastes..

C. Exemption of Waste Burned in "Bevill" Units .....

D. "Grab" Sampling .....

V. CONCLUSION .....

I. Statutory and Regulatory Background

Subtitle C of the Resource Conservation and Recovery Act, 42 U.S.C. §§ 6921-6939b (1988), sets out a comprehensive regulatory system governing the treatment, storage, and disposal of hazardous wastes. Wastes are deemed hazardous in one of two ways: They possess one of the four hazardous characteristics identified by the EPA in 40 C.F.R. Part 261, Subpart C ("characteristic wastes"), *see id.* § 261.3(a)(2)(i) (1991), or have been found to be hazardous as a result of an EPA rulemaking. *See id.* Part 261, Subpart D ("listed wastes").

The four characteristics identified as hazardous are ignitability, corrosivity, reactivity, and extraction procedure ("EP") toxicity. The hazards presented by ignitable, corrosive, and reactive ("ICR") wastes are primarily, though not exclusively, the results of their physical properties. *See* 45 Fed. Reg. 33,066, 33,107-10 (1980). EP characteristic wastes contain toxic constituents. *Id.* at 33,107-12. These wastes remain hazardous until they cease to exhibit any of the characteristics identified in Subpart C. *See* 40 C.F.R. § 261.3(d)(1). Characteristic wastes comprise over fifty percent of all the hazardous wastes generated in the United States each year.

Although the EPA may list a waste if it possesses one of the four characteristics described above, in practice it will only list specific wastes that are either acutely hazardous or possess high levels of toxic constituents. *See id.*; 45 Fed. Reg. at 33,105-07. A listed waste loses its hazardous status only after a petition for its "delisting" is approved by the EPA in a notice-and-comment rulemaking. *See* 40 C.F.R.

§§ 260.20, 260.22; *Shell Oil Co. v. EPA*, 950 F.2d 741, 749 (D.C. Cir. 1991).

"Once a waste is listed or identified as hazardous, its subsequent management is regulated" under subtitle C of RCRA. *American Petroleum Inst. v. EPA*, 906 F.2d 729, 733 (D.C. Cir. 1990) ("*API*"). The waste enters RCRA's "cradle-to-grave" regulatory system; and "the waste's treatment, storage, and disposal is usually regulated by permit." *American Mining Congress v. EPA*, 907 F.2d 1179, 1182 (D.C. Cir. 1990) ("*AMC II*"); *see also* RCRA §§ 3001-3004, 42 U.S.C. §§ 6921-6924. The management of a hazardous waste continues "until such time as it ceases to pose a hazard to the public." *Shell Oil*, 950 F.2d at 754.

Because "certain classes of land disposal facilities are not capable of assuring long-term containment of certain hazardous wastes," RCRA § 1002(b)(7), 42 U.S.C. § 6901(b)(7), Congress amended subtitle C in 1984 to prohibit land disposal of many hazardous wastes. The Hazardous and Solid Waste Amendments of 1984, Pub. L. No. 98-616, 98 Stat. 3221 (1984) ("1984 Amendments"), gave the EPA significant authority to regulate land disposal. The statute expressed a general policy preference that "reliance on land disposal should be minimized or eliminated." RCRA § 1002(b)(7), 42 U.S.C. § 6901(b)(7). A prohibition on disposal would apply unless the waste is treated so as to minimize the short-term and long-term threats to human health and the environment posed by toxic and hazardous constituents, RCRA § 3004(m), 42 U.S.C. § 6924(m), or unless the EPA finds that no migration of hazardous constituents from the facility will occur after dis-

posal. *Id.* § 3004(g)(5), 42 U.S.C. § 6924(g)(5); *see also Hazardous Waste Treatment Council v. EPA*, 886 F.2d 355, 357 (D.C. Cir. 1989), *cert. denied*, 111 S. Ct. 139 (1990) (*"HWTC III"*).

The 1984 Amendments specifically required the EPA to follow a phased schedule to implement the land disposal ban. They forbade the land disposal of hazardous wastes containing solvents and dioxins after November 8, 1986. RCRA § 3004(e), (42 U.S.C. § 6924(e). A select list of other wastes were barred from land disposal after July 8, 1987 ("California list" wastes). *Id.* § 3004(d), 42 U.S.C. § 6924(d). Finally, the amendments ordered the Agency to rank all remaining hazardous wastes on the basis of their intrinsic hazard and the volume generated annually and to divide the list into three parts. *Id.* § 3004(g)(4), 42 U.S.C. § 6924(g)(4). The Administrator was then charged with the task of promulgating final regulations for each third of the list. *See id.* § 3004(g)(5), 42 U.S.C. § 6924(g)(5). Unless the Administrator promulgated regulations for wastes in the last third of the list by May 8, 1990, they could not be land disposed. *Id.* § 3004(g)(6)(C), 42 U.S.C. § 6924(g)(6)(C).

Under the 1984 Amendments, the final regulations must

> prohibit[] one or more methods of land disposal of the hazardous wastes listed on such schedule except for methods of land disposal which the Administrator determines will be protective of human health and the environment for as long as the waste remains hazardous . . . . For the purposes of this paragraph, a method of land disposal may not be determined to be protective of human health and the environment (except with respect

> to a hazardous waste which has complied with the pretreatment regulations promulgated under subsection (m) of this section) unless, upon application by an interested person, it has been demonstrated to the Administrator, to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the disposal unit or injection zone for as long as the wastes remain hazardous.

RCRA § 3004(g)(5), 42 U.S.C. § 6924(g)(5). The Administrator must also promulgate treatment standards, compliance with which will authorize land disposal, at the same time he publishes the land ban. The treatment regulations shall

> specify[] those levels or methods of treatment, if any, which substantially diminish the toxicity of the waste or substantially reduce the likelihood of migration of hazardous constituents from the waste so that short-term and long-term threats to human health and the environment are minimized.

Id. § 3004(m)(1), 42 U.S.C. § 6924(m)(1).

The regulations under review implement the land-ban program for the last third of the ranked list of wastes, the "third-third." They largely consist of treatment standards for characteristic wastes. *See* 55 Fed. Reg. 22,520-720 (1990). The final rule also modifies regulations governing characteristic wastes that are managed in treatment systems regulated through National Pollutant Discharge Elimination System permits issued under the Clean Water Act as well as regulations affecting those disposed of in underground injection wells regulated under the Safe

Drinking Water Act. The rule establishes a variety of compliance requirements as well.

Fourteen petitions for review were filed and consolidated into this proceeding. Petitioners divided the case into three groups of issues for purposes of briefing and argument. The first focuses on industry petitioners' challenge to standards mandating treatment of characteristic wastes beyond the point at which they cease to display hazardous characteristics and on NRDC petitioners' challenge to dilution as a method of treatment. The second centers on the Clean Water Act and underground injection well questions. The third consists of the remaining issues. This opinion adopts the same approach.

II. Treatment Standards for Characteristic Wastes

A. Proposed Rule

As described above, at the outset of the RCRA program, the EPA identified four characteristics as hazardous: ignitability, corrosivity, reactivity, and EP toxicity. In its proposed rules, and in the final regulations, the Agency divided characteristic wastes into subcategories, suggesting treatment standards or levels for each subcategory. For some of these, the EPA proposed treatment to reduce the presence of the characteristic below the level at which the waste was defined as hazardous. For example, a waste is considered corrosive, and therefore hazardous, if it is aqueous and has a pH of less than two or greater than 12.5. The proposed rule required treatment that would result in a pH between six and nine. *See* 54 Fed. Reg. 48,372, 48,422 (1989). For other subcategories, however, the EPA suggested treatment to

the characteristic level and no further. *See id.* at 48,420-26 (setting treatment levels and standards).

The Agency stated that it possessed the authority to compel treatment below characteristic levels. *See* 54 Fed. Reg. at 48,419. It took note of the argument that the characteristic levels represent the limit of subtitle C authority—that the Agency had no power to regulate a waste where the characteristic had been brought below the level deemed hazardous. *Id.* at 48,490. The Agency believed, however, that section 3004(m) extended its authority beyond that point. "[O]nce wastes become subject to section 3004(m), they remain subject to the requirements of that section until the section 3004(m) standard is satisfied." *Id.* The EPA concluded that it was directed by the statute to require a waste that is hazardous at the point of generation and is destined for land disposal to "be treated by methods which substantially reduce toxicity and minimize threats to human health and the environment." *Id.*

As to methods of treatment, the proposed rule largely followed the judgment made by the EPA in previous land-ban program rulemakings. In those earlier rules, the EPA determined that treatment would be accomplished through the use of "best demonstrated available technologies." *See, e.g.*, 51 Fed. Reg. 40,572, 40,578 (1986) (solvents and dioxins); 53 Fed. Reg. 31,138, 31,142 (1988) (first-third wastes). The proposed rule specified the particular technology to be used in the treatment of most ICR wastes. *See* 54 Fed. Reg. at 48,420-26. For a handful of others, the Agency offered a measure of flexibility by creating a "deactivation" category of treatment. According to the proposals, the EPA had "determined

that within [several ICR subcategories]there appear to be a further variety of different waste groups, each with a certain degree of uniqueness with respect to hazard and handling requirements." *Id.* at 48,419. Therefore, while the Agency recommended a number of methods, it proposed to allow generators or treaters of those wastes to select the appropriate method of treatment. *Id.* at 48,419-20.

In implementing the land-ban program for solvents and wastes containing dioxins, the EPA barred dilution as an alternative for "adequate treatment." *See* 51 Fed. Reg. at 40,639. As codified, the rule stated that

> no generator, transporter, handler, or owner or operator of a treatment, storage, or disposal facility shall in any way dilute a restricted waste . . . as a substitute for adequate treatment to achieve compliance with subpart D of this part [setting forth treatment standards], . . . or to circumvent a land disposal prohibition imposed by RCRA section 3004.

40 C.F.R. § 268.3(a) (1989).

At several points in the proposed third-third rule, the EPA reaffirmed its decision that a generator or treater might not dilute wastes to escape the dictates of the land disposal program. In its discussion of ignitable wastes, the Agency stated that "a prohibited form of dilution that is used to remove a characteristic from a prohibited hazardous waste would be a violation of the dilution prohibition in [40 C.F.R.] section 268.3." 54 Fed. Reg. at 48,422. Among the EPA's concerns was the possibility that dilution of ignitable wastes would lead to dangerous emissions of volatile organic compounds, a problem that could be

avoided by using other treatment methods. *Id.* "Accordingly, the Agency believes that dilution should not be a legitimate method for treating ignitable wastes." *Id.*

The EPA proposed a similar bar with regard to reactive wastes: "[D]ilution of reactive wastes should not automatically be considered to be a legitimate form of treatment." *Id.* at 48,426. It proposed that reactive cyanides and sulfides be treated like any toxic waste; "[w]ith respect to other reactive wastes, most cannot be diluted without violent reaction so that dilution is not a viable management alternative[.]" *Id.*

Finally, the EPA suggested that corrosives be treated by neutralization, not dilution, to alter their pH. *Id.* at 48,422-23. According to the Agency, dilution would require the use of large amounts of water and would create a greater volume of waste; moreover, dilution "does not treat or remove hazardous constituents in the wastes. *Id.* at 48,423.

More broadly, the EPA expressed its

> concern, echoing Congress' concern in indicating that dilution to avoid proper treatment was impermissible, [] that individual prohibited wastes [hazardous wastes destined for land disposal] not be mixed with larger volumes of other wastes (whether prohibited or not to meet treatment standards without undergoing treatment that substantially reduces the prohibited wastes toxicity or mobility. . . .
>
> Consequently, it appears to the Agency that any dilution that fails to meet the standard in § 3004(m) of substantially reducing the prohib-

> ited waste's toxicity or mobility is impermissible. . . . Further, with respect to organic constituents, 'reduction of toxicity' means actual removal of or chemical change to the constituent.

Id. at 48,494 (citation omitted). But the Agency did seek comments on "whether dilution can be used as a means of supplanting a section 3004(m) treatment standard by being used to render a prohibited waste non-hazardous in lieu of actually treating the prohibited hazardous waste prior to land disposal." *Id.* at 48,495.

B. Final Rule

In the final rule, the EPA revised many of its proposed treatment standards for ICR and toxic characteristic wastes. The EPA, however, did not back away from its basic position that it could require treatment below characteristic levels. Because "Congress has given apparently conflicting guidance on how the Agency should address land disposal prohibitions for characteristic wastes," the EPA "believes it has authority to reconcile these potential conflicts and to harmonize statutory provisions to forge a coherent regulatory system." 55 Fed. Reg. at 22,651. The EPA agreed with many participants in the comment period that "one permissible construction of the language in section 3004(g)" (which requires the promulgation of regulations "prohibiting . . . methods of land disposal of the [listed] hazardous wastes") is that subtitle C rules applied only to hazardous wastes, and therefore the applicability of the land disposal regulations must be judged at the moment of disposal. 55 Fed. Reg. at 22,652. Ultimately, the EPA concluded that Congress did not state when the status

of the waste should be evaluated for purposes of the ban on land disposal; therefore, the EPA could choose to regulate the waste "at the point of generation or at the point of disposal (and possibly at some other point or combination of the two)." *Id.*

While viewing its authority broadly, the EPA decided to exercise it sparingly:

> Today's rule reflects a decision to take limited, but nonetheless significant, steps within the point of generation framework. As a general matter, the Agency believes that the goals of [the program] may require application of standards which go beyond the characteristic level . . . in some future cases.

Id. at 22,654. The final regulations call for treatment below characteristic levels for only a handful of wastes. Among ICR wastes, ignitable liquids with high total organic carbons (a subset of the subcategory of ignitable liquids for which the proposed rule required treatment to below characteristic levels by technology), *see id.* at 22,543-44, and reactive cyanides, *see id.* at 22,550-51, would be subject to enhanced treatment. The Agency backed away from its original plan to mandate enhanced treatment for corrosive characteristic wastes.

The EPA determined that for most ICR wastes, treatment to characteristic levels would be sufficient. The Agency found upon review that

> [t]he environmental concerns from the properties of ignitability, corrosivity, and reactivity are different from the environmental concern from EP toxic wastes. Toxic constituents can pose a cumulative impact on land disposal even where

> waste is below the characteristic level. Where wastes pose an ascertainable toxicity concern . . . the Agency has developed treatment standards that address the toxicity concern and (in effect) require treatment below the characteristic level. . . . Otherwise, treatment that removes the properties of ignitability, corrosivity, and reactivity, fully addresses the environmental concern from the properties themselves.

Id. at 22,655.

The EPA also retreated from its emphasis on technology-based treatment in the final regulations, altering its position on the use of dilution as a method of treatment:

> In all cases, the Agency has determined that for non-toxic hazardous characteristic wastes, it should not matter how the characteristic property is removed so long as it is removed. Thus, dilution is an acceptable treatment method for such wastes.

Id. at 22,532. The Agency included dilution within the ambit of the "deactivation" treatment standard. The final rule defined the standard as "[d]ecativation to remove the hazardous characteristics of a waste due to its ignitability, corrosivity, and/or reactivity." *Id.* at 22,693. As long as these characteristics are removed, any method can be employed under the final regulations. The EPA allowed full discretion among specified technological methods of treatment (such as neutralization or incineration) as well as dilution with water or other wastes. For toxic wastes, the prohibition on dilution remained. *See id.* at 22,656.

The Agency admitted that it

> believes the mixing of waste streams to eliminate certain characteristic[s] is appropriate treatment for *most* wastes which are purely corrosive, *or in some cases*, reactive or ignitable. As a general matter, these are properties which can effectively be removed by mixing.

Id. (emphasis added). It further conceded that

> this approach does not fully address the potential problem of toxic constituents that may be present in such wastes, nor encourages minimization or recovery of non-toxic characteristic hazardous wastes. EPA has determined that these potential problems should be addressed, if at all, in other rulemakings . . . and are too difficult to resolve in this proceeding, given the extraordinary pressures and limited review time imposed by the May 8 [1990] statutory deadline.

Id. at 22,665-66. Only in three subcategories of ICR wastes did the EPA mandate the use of technological treatment: reactive sulfides, 57 Fed. Reg. 8,086, 8,089 (1992) (technical correction to third-third rule); reactive cyanides, 55 Fed. Reg. at 22,551; and ignitable liquid nonwastewater wastes, containing more than ten percent total organic compounds, *id.* at 22,544. For all corrosive wastes, other ignitable liquid wastes (nonwastewaters with low total organic compounds and ignitable wastewaters), ignitable compressed gases, ignitable reactive wastes, explosive wastes, water reactives, and other reactives dilution would be acceptable. *Id.* at 22,543-53.

C. Standard of Review

Industry and NRDC petitioners challenge the third-third rule's treatment standards as incompatible with

RCRA. We typically analyze such claims under the familiar standard of *Chevron U.S.A. Inc. v. NRDC*, 467 U.S. 837 (1984). Under *Chevron*, unless Congress has spoken directly to these questions, the EPA's determinations are entitled to deference, if reasonable. *Id.* at 842-43.

D. Industry Petitioners' Challenge to the Treatment Standards

Industry petitioners contend that RCRA does not provide authority for the EPA to mandate treatment of characteristic wastes after their ignitability, corrosiveness, reactivity, or EP toxicity has been addressed. They make a straightforward argument: Subtitle C regulations attach to a waste only when it is hazardous. The moment a waste ceases to meet the regulatory definition of a hazardous waste, the EPA loses its authority to regulate further. Thus, in industry petitioners' view, RCRA's cradle-to-grave system covers waste only if it remains hazardous thoughout its life and at the moment of its burial.

Industry petitioners point to a welter of provisions in RCRA where the words "hazardous waste" are used as proof that the statute applies only to waste defined as hazardous. Subtitle C, they explain, is entitled "Hazardous Waste Management," and the entire subtitle addresses that problem—the management of *hazardous* waste. They add that some statements by the EPA have suggested the same reading of the statute. *See, e.g.*, 54 Fed. Reg. 1,056, 1,093 (1989) (a waste that no longer exhibits a hazardous characteristic "is no longer subject to the requirements of Subtitle C of RCRA").

In their view, the 1984 Amendments did not change this boundary. They point out that land disposal is

defined in part as "any placement of such hazardous waste in a landfill, [or] surface impoundment," RCRA § 3004(k), 42 U.S.C. § 6924(k); that section 3004(g) similarly "prohibit[s] one or more methods of land disposal of [] hazardous wastes," *id.* § 6924 (g)(5); and, finally, that section 3004(m) authorizes land disposal of hazardous waste that has been treated, suggesting to industry petitioners that the provision specifically authorizes only the disposal of wastes that remain hazardous after treatment. Thus, they conclude, the disposal restrictions can apply only to wastes that are hazardous at the moment of disposal.

In its brief, the EPA reiterates the rationales stated in its final rule: The key provisions of the land-ban program, sections 3004(g)(5) and (m), can be read as allowing the Agency to apply land disposal restrictions at any time it wishes; those provisions at a minimum contemplate activity that occurs before land disposal; section 3004(m)(1) requires treatment to avoid the prohibition on land disposal; and treatment must take place, by definition, before disposal occurs. This reading, the EPA adds, dovetails with the concern expressed in the report accompanying the Senate version of the 1984 Amendments, that hazardous waste not be diluted and then disposed of in landfills. *See* S. Rep. No. 284, 98th Cong., 1st Sess. 17 (1983) ("Senate Report"). The Agency reasons that the subtitle C program can attach at the point of generation, and the broad language of section 3004 (m)(1) allows additional treatment to remove risks posed by wastes beyond those inherent in the characteristic.

To succeed in their *Chevron* step one argument, industry petitioners must show that Congress "has

directly spoken to the precise question at issue" and has "unambiguously expressed [its] intent." 467 U.S. at 842-43.[3] We find little support in the statute or our prior decisions for the notion that Congress mandated the line industry petitioners draw. These petitioners believe that the definition of a hazardous waste acts as a revolving regulatory door, allowing continual entrance and egress from RCRA's requirements. The key provisions of the statute support a contrary view—that hazardous waste becomes subject to the land disposal program as soon as it is generated.

RCRA directs the Administrator to "promulgate regulations identifying the characteristics of hazardous waste . . .which shall be subject to the provisions of this subchapter." RCRA § 3001(b)(1), 42 U.S.C. § 6921(b)(1). This appears to bring a waste within the statutory scheme once it is identified as hazardous. Under the dictates of the 1984 Amendments, the Administrator "shall promulgate regulations . . . [banning land disposal for] any hazardous waste identified or listed under section 6921 of this title." RCRA § 3004(g)(4), 42 U.S.C. § 6924(g)(4). Again, the focus is on the identification of a waste as hazardous.

This reading of the statute is consistent with our prior interpretations. In *API*, we explained that

---

[3] Industry petitioners suggest that the EPA's decision to mandate treatment of some wastes below characteristic levels is due no deference because the EPA made "prior inconsistent statements" during the rulemaking that cut against its current position. *See* Brief for Industry Petitioners at 24-25. As our analysis makes clear, we find that the statute compels the EPA, in some instances, to require treatment beyond removal of the characteristic of hazard. Therefore, we do not address industry's contention.

"[o]nce a waste is listed or identified as hazardous, its subsequent management is regulated." *API*, 906 F.2d at 733. After the 1984 Amendments, we added, regulation of the waste included the prohibitions of section 3004. *Id.* In *Shell Oil*, we noted that the power to manage waste is created "[a]t [the] point" a waste is defined as hazardous and discarded. *Shell Oil*, 950 F.2d at 754. Once in the system, we found that the power to manage hazardous waste provided by RCRA gave the EPA the authority to regulate waste until "it ceases to pose a hazard to the public." *Id.; see also* RCRA § 1004(7), 42 U.S.C. § 6903(7) (defining "hazardous waste management"). We therefore deferred to the EPA's determination that resource recovery from hazardous waste came within the Agency's subtitle C authority.

Industry petitioners nevertheless contend that we adopted the exact position they now advocate in *American Mining Congress v. EPA*, 824 F.2d 1177 (D.C. Cir. 1987) ("*AMC I*"). To be sure, in *AMC I*, we stated that the EPA's authority, in the first instance, extends only to waste that is identified as hazardous, *id.* at 1179, and that Congress took care in drafting the definition of solid waste to reflect its concern over the reach of the EPA's authority, *id.* at 1188-89 and n.17. But, as we emphasized in *Shell Oil*, the definitions of solid and hazardous wastes provide the keys to entrance into the RCRA system; "[o]nly materials that meet *both* definitions will become within the [RCRA] 'cradle-to-grave' regulatory scheme," *Shell Oil*, 950 F.2d at 754 (emphasis added); and we also stated that once within the system, the waste will remain there so long as it poses a threat to the public health and safety. *Id. AMC I* turned

on the question of whether secondary materials immediately reused within an industrial process had been "discarded" under the terms of RCRA. We concluded that they had not. *AMC I*, 824 F.2d at 1185-87. Our decision in that case stands for no more. *See Shell Oil*, 954 F.2d at 755-56.

The 1984 Amendments also provide the EPA with the authority to mandate treatment past the point at which a characteristic is removed. Section 3004(g)(5) requires the Administrator to promulgate regulations prohibiting land disposal of hazardous wastes "except with respect to a hazardous waste which has complied with the pretreatment regulations promulgated under subsection (m) of this section." 42 U.S.C. § 6924(g)(5). Subsection (m)(1), in turn, calls on the Administrator to

> specify[] those levels or methods of treatment, if any, which substantially diminish the toxicity of the waste or substantially reduce the likelihood of migration of hazardous constituents from the waste so that short-term and long-term threats to human health and the environment are minimized.

RCRA § 3004(m)(1), 42 U.S.C. § 6924(m)(1). The requirement that treatment "substantially diminish the toxicity" or substantially reduce the likelihood of migration of hazardous constituents suggests concerns that go beyond the characteristics identified in 40 C.F.R. Part 261, subpart C. Similarly, in concluding that the EPA had the authority to require technologies that go beyond the elimination of hazardous characteristics, we have noted that "minimize" offers a broad mandate: "To 'minimize' something is, to quote the Oxford English Dictionary, to 'reduce [it]

to the smallest amount, extent, or degree.'" *HWTC III*, 886 F.2d at 361.

In *HWTC III*, the Chemical Manufacturer's Association ("CMA") attacked treatment standards for solvents under the land disposal program because the EPA required treatment of all solvents, not simply those deemed unsafe. *See id.* at 361. The CMA argued that this regime could result in treatment "below established levels of hazard," and therefore was an unreasonable interpretation of the Act. *Id.* at 362. We disagreed, noting that section 3004(m) demands that treatment minimize risks to health and the environment. Treatment might be unreasonable, we added, if the EPA required treatment of wastes that "posed no threat to human health or the environment." *Id.* at 363. That was not the case in *HWTC III*, nor is it true here.

We conclude that, in combination, sections 3004(g)(5) and (m) provide the EPA with authority to bar land disposal of certain wastes unless they have been treated to reduce risks beyond those presented by the characteristics themselves. We also find the Agency's assertion of regulatory authority over the wastes from the moment they are generated to be "based on a permissible construction of the statute." *Chevron*, 467 U.S. at 843.

E. NRDC Petitioners' Challenge to Deactivation Treatment Standard

NRDC petitioners ask this court to vacate the deactivation treatment standard as applied to ICR wastes because it authorizes the dilution of these wastes to eliminate their ignitability, corrosiveness, or reactivity rather than mandating use of technologi-

cal treatment. NRDC petitioners rely on the language of section 3004(m)(1), statements in the legislative history of the 1984 Amendments, and the overall structure of the RCRA program as support for their position that treatment does not include dilution. They claim that some form of technology must be used to treat wastes in all instances.

They also contend that dilution fails to satisfy the statutory requirement that treatment minimize short-term and long-term threats to human health and the environment, or to substantially diminish the toxicity of the waste. In their view, the removal of these characteristics through dilution only affects the short-term risk that the waste will manifest that property; it does not address the threats posed by the hazardous organic and inorganic constituents of those wastes. NRDC petitioners also assert that the Agency's interpretation of RCRA fails *Chevron*'s second step because the statute does not permit a plea of time pressures as a reason for failing to require treatment at the levels mandated by section 3004(m). *See* 55 Fed. Reg. at 22,665-66.

We believe that dilution can, in principle, constitute an acceptable form of treatment for ICR wastes. We do not read the 1984 Amendments as mandating the use of the best demonstrated available technologies ("BDAT") in all situations. To reiterate, section 3004(m)(1) directs the Administrator to

> specify[] those levels or methods of treatment, if any, which substantially diminish the toxicity of the waste or substantially reduce the likelihood of migration of hazardous constituents from the waste so that short-term and long-term threats to human health and the environment are minimized.

42 U.S.C. § 6924(m)(1). NRDC petitioners insist that under the plain terms of this provision, the deactivation standard fails because dilution is not a "method of treatment." Although they acknowledge that the statutory definition of "treatment" is broad enough to encompass dilution, *see* RCRA § 1004(34), 42 U.S.C. § 6903(34), they maintain that Congress had a more exacting criterion in mind when it enacted section 3004(m).

We agree that the section imposes an exacting standard: It requires that treatment prior to land disposal "substantially diminish the toxicity of the waste or substantially reduce the likelihood of migration of hazardous constituents from the waste so that short-term and long-term threats to human health and the environment are minimized." RCRA 3004(m)(1), 42 U.S.C. § 6924(m)(1). But this provision does not bar dilution as a means of treating ICR wastes; instead, it defines the purposes that a method of treatment must achieve. Any treatment that meets those objectives is permissible. When read against RCRA's broad definition of treatment, we cannot say Congress clearly barred dilution as an acceptable methodology. *See Chevron*, 467 U.S. at 842-43.

NRDC petitioners advert to a number of statements in the legislative history that they believe make clear Congress's unexpressed intent to prohibit dilution as a form of treatment in all cases. They cite, for example, the committee report accompanying the Senate version of the 1984 Amendments, which notes that hazardous waste should be "transformed to a less hazardous chemical form through treatment." Senate Report at 17. More directly, the report states:

> The dilution of wastes by the addition of other hazardous wastes or any other materials during waste handling, transportation, treatment, or storage is not an acceptable method of treatment to reduce the concentration of hazardous constituents. Only dilution which occurs as a normal part of the process that results in the waste can be taken into account in establishing concentration levels.

Id. These petitioners also quote from Senator Moynihan's statement explaining the floor amendment that became section 3004(m): "The requisite levels o[r] methods of treatment established by the Agency should be the best that has been demonstrated to be achievable." 130 Cong. Rec. 20,803 (1984) (statement of Sen. Moynihan). They infer from this that only treatment with technology will meet the standard of section 3004(m).

We are unpersuaded. The Senate committee version of the 1984 Amendments, which the committee report addresses, mandated the treatment of EP toxic wastes among the many others specified in the legislation. It did not require the treatment of ICR wastes. *See* Senate Report at 17-18. The strong statements cautioning against dilution as a means of treatment must be read in that context. Similarly, Senator Moynihan's statement referred to the particular problem of highly mobile, highly toxic wastes. *See* 130 Cong. Rec. S9,178. These citations to legislative history do not show that Congress spoke directly to the dilution of ICR wastes. *See Chevron*, 467 U.S. at 842-43.

We are more troubled by the question whether the dilution of certain ICR wastes will satisfy section

3004(m). Treatment must meet the standards established by that section, and its requirements are clear: It must remove the characteristic and reduce the presence of hazardous constituents when those constituents are present in sufficient concentrations to pose a threat to human health or the environment. The EPA's regulations "must be fully consistent with" those requirements. *NLRB v. United Food & Commercial Workers Union, Local 23, AFL-CIO*, 484 U.S. 112, 123 (1987). We find it unclear whether dilution is fully consistent with section 3004(m)'s treatment which the EPA has proscribed deactivation.

As we have explained, the proposed rule pointed to significant problems that could arise if dilution was accepted as a means of treating IRC wastes. In the final regulations, the Agency found that deactivation "addresses the environmental concern from the properties themselves." 55 Fed. Reg. at 22,655. The EPA admitted, however, that "the characteristic level is only one indicator of hazard and, thus, removal of the specific characteristic is not the same as assuring that the waste is safe." *Id.* at 22,651. It then acknowledged "that this approach does not fully address the potential problem of toxic constituents that may be present in [ICR] wastes, nor encourage[] minimization . . . of non-toxic characteristic hazardous wastes." *Id.* at 22,665. The Agency's brief contains a similar admission. Brief for Respondent at 96-97.

Unfortunately, these confessions are not a substitute for a rule conforming to the statute's command. We conclude that the deactivation standard, in its present form, is permissible only in the case of corrosive wastes; and then only so long as they do not contain hazardous constituents that, following dilu-

tion, would themselves present a continuing danger to human health or the environment.

1. *Ignitable Wastes*

At oral argument, counsel for the EPA conceded that some ignitable wastes subject to the deactivation standard include hazardous or toxic constituents that will remain after dilution, perhaps at sufficient levels to pose a risk to human health and the environment. *See also* Reply Brief for NRDC petitioners at 12-14 (ignitable wastes have significant hazardous constituents); EPA, Final BDAT Background Document (May 1990), at 2-2 and 2-3, *reprinted in* Joint Appendix ("J.A.") at 456-57 (same). Further, in the proposed rule, the EPA barred dilution of all ignitable wastes because of the risk of emissions of volatile organic compounds during dilution and the possibility that the waste would regain its ignitability after dilution. *See also* BDAT Background Document at 2-10, *reprinted in* J.A. at 464 ("If the ignitable wastes are diluted, [volatile organic compounds] will ordinarily be emitted in concentrations far exceeding those emitted by treatment processes in which these volatiles are destroyed.").

The final regulations suggested a number of technology-based treatment methods that might be used for ignitable wastes, but in the end authorized dilution if it would remove the characteristic alone, except for ignitable wastes including more than ten percent total organic compounds. In its brief, the Agency stated that the problem of emissions and the possibility that the waste would regain its ignitability were not significant, that some dilution prior to treatment would be beneficial, and that the problem of VOC emissions, if any occur, would be "best ad-

dressed by establishing air emission limitations in the future." Brief for Respondent at 93.

In view of the EPA's position that treatment pursuant to section 3004(m) requires the removal of a waste's hazardous characteristic and the reduction of other hazardous constituents, and the Agency's concessions that constituents are present in some ignitable wastes subject to the deactivation standard, we vacate this part of the rule. To conform with its own reading of section 3004(m), the Agency must identify the ignitable wastes that include, after dilution, sufficiently high levels of hazardous constituents to pose a risk to human health or the environment, and propose a method of treatment that will deal with these threats. In addition, the Agency must address the problem of VOC emissions from ignitable wastes during dilution. The EPA's statement that it believes that VOC emissions can be controlled by changes in operating parameters is inadequate. It must state, with evidentiary support, that the risk of VOC emissions during dilution is minimal for ignitable wastes now subject to the deactivation standard, or it must require actions to minimize that risk.

2. *Corrosive Wastes*

The EPA asserts in its brief that the *sole* problem posed by corrosive wastes is their corrosiveness: "[T]here are no hazardous constituents in the waste." Brief for Respondent at 94. Counsel for the EPA made essentially the same representation at oral argument. But NRDC petitioners come to a different conclusion. They point to the proposed rule, *see* 54 Fed. Reg. at 48,423 ("The Agency prefers neutralization of corrosive wastes over simple dilution because dilution simply creates a larger volume of wastes but

does not treat or remove hazardous constituents in the wastes."), and a statement from the EPA's BDAT Background Document stating that some corrosive wastes do in fact possess hazardous constituents beyond their potential for corrosion. *See* BDAT Background Document at 3-2, *reprinted in* J.A. at 485 ("Typically, corrosive wastes that are disposed of by deep well injection are likely to contain toxic organics, whereas landfilled wastes are likely (38 percent) to contain heavy metals."); *see also id.* at 3-7, *reprinted in* J.A. at 490 (residue from neutralized corrosive wastes can exhibit the characteristic of EP toxicity). NRDC petitioners acknowledge that corrosive wastes can be treated effectively by mixing acid and alkaline wastes; but they object to dilution with water because it will not treat the toxic constituents they claim are present in corrosive wastes. Reply Brief for NRDC petitioners at 15.

The final regulations themselves are somewhat ambiguous on the question of the presence of hazardous constituents. In discussing the deactivation standard applied to acids and alkalines, the EPA states that "many [corrosive] wastes also are hazardous for other reasons, and may require that additional treatment processes be employed besides neutralization, incineration or recovery." 55 Fed. Reg. at 22,549. The Agency also explains that

> [c]orrosivity is not defined in the same way EP Toxic wastes are defined. Corrosivity is not based on a toxic constituent, where the environmental concern is mass-loading in the environment. With respect to the issue of toxics present in these corrosive wastes, EPA notes that if a corrosive waste also exhibits the toxicity characteristic, it must

> be treated to meet the treatment standard for the toxic constituent as well . . . .

Id. This explanation begs the question of what is required if the toxic constituent is present in insufficient quantities to cause the waste to be classified as EP toxic as well as corrosive, but in sufficient quantities to engage section 3004(m)'s concerns over residual effects.

We agree with the EPA that dilution can be an acceptable form of treatment of corrosive wastes. But in the face of this record, we cannot rely on the assertions made in the EPA's brief and oral argument that corrosive wastes pose no hazards other than those presented by this characteristic. If, however, the facts will support these assurances, the EPA may cure this defect and meet the requirements of section 3004(m) with a statement, backed by evidence, that the corrosive wastes subject to the deactivation standard do not contain hazardous constituents that pose a threat to human health and the environment. If such a statement may be made, the Agency should be able to revise its rulemaking prior to the issuance of the mandate in this case.

3. *Reactive Wastes*

With regard to reactive wastes, we have a problem of a different kind. Although, in the final regulations and in its brief, the EPA spoke of ICR wastes generally when it confessed that hazardous constituents might remain in some wastes following deactivation, *see* 55 Fed. Reg. at 22,655-56; Brief for Respondent at 96-97, we find nothing in the proposed or final regulations to suggest that reactive wastes contain such constituents, other than reactive cyanides and

sulfides for which the EPA ordered technological treatment. Nor have NRDC petitioners identified any. Therefore, we have no basis for vacating the use of the deactivation standard for the remaining subcategories of reactive wastes because of the threat of migration of hazardous constituents.

The EPA, however, has only partially addressed the problem, raised in the proposed rule, of the effect of dilution on reactive wastes—that those wastes could display their reactive characteristic in the process of dilution. *See* 54 Fed. Reg. at 48,426. *See also* BDAT Background Document at 4-3, *reprinted in* J.A. at 503 (water reactives "(1) react violently with water; (2) form potentially explosive mixtures with water; or (3) when mixed with water, generate toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or the environment."). In the final regulations, based on comments received, the EPA suggested that dilution with "certain organic liquids" prior to dilution with water would remove the risk of a violent reaction in the three subcategories of reactive wastes for which the deactivation treatment standard is permitted, allowing subsequent incineration or chemical treatment. 55 Fed. Reg. at 22,553. The Agency noted that it was "not restricting the use of this practice" for any reactive waste. *Id.*

The final regulations thus offer no assurance that dilution of explosive, water reactive, or other reactive wastes will not create a risk of violent reaction. The final regulations state that the Agency will not prohibit the practice of diluting wastes with other materials to reduce the risk of reaction, and suggest that this might be a useful step to take prior to tech-

nological treatment. This ignores the reality of the EPA's deactivation standard: Dilution of these wastes by any method is permissible if it removes the characteristic.

We grant, on narrow grounds, the petition for review as to reactive wastes. The Agency must limit dilution to methods that will curb the risk of violent reactions, mandate preliminary steps to prevent such reactions, require a technological treatment, or find, with the backing of evidence, that there is no significant risk of reaction present for any of the three subcategories of reactive wastes for which deactivation is a permissible form of treatment.

* * *

Finally, contrary to what the EPA suggests, it will not suffice that the Agency promises to fully address certain unresolved problems of hazardous constituents in future rulemakings. In enacting the 1984 Amendments, Congress imposed very strict deadlines. Moreover, it has chosen to enforce them by decreeing that any hazardous waste that is not covered by a valid regulation within the date specified will be denied land disposal. We understand the enormous difficulties that the Agency has undoubtedly faced, given competing obligations and the complexity of the task. Nevertheless, we cannot treat the final rule as other than that—the EPA's final response to the task entrusted to it by Congress. *Cf. State of Colorado v. Dep't of Interior*, 880 F.2d 481, 485 (D.C. Cir. 1989) (regulations promulgated by the deadline "constitute the [Agency's] complete response in compliance with the statutory requirements.").

III. The EPA's Dilution Rules

The issues that we next face focus on challenges to the EPA's new dilution permissions, formulated to integrate RCRA requirements with Clean Water Act ("CWA") treatment systems and deep injection wells regulated pursuant to the Safe Drinking Water Act ("SDWA"). Contemporaneously with the promulgation of the third-third rule, the EPA amended a rule that had prohibited dilution of wastes in lieu of treatment. Pursuant to the amended rule, centralized CWA treatment systems may aggregate certain characteristic waste streams; the aggregation results in dilution that purportedly removes the hazardous characteristic without treatment. Under this new rule, dilution is allowed where the EPA has not specified a particular treatment method and where the CWA system includes a treatment protocol addressed to the types of characteristic wastes being aggregated. As a consequence of this rule, CWA treatment facilities may continue to use unlined surface impoundments as part of their treatment trains. The EPA also promulgated a new rule that permits the operators of deep injection wells to dilute all characteristic wastes, in lieu of treatment, prior to underground injection.

NRDC petitioners contend that aggregation and dilution of characteristic wastes in CWA facilities, in lieu of treatment, is inconsistent with the requirements for hazardous waste management under RCRA. According to the NRDC, under RCRA subtitle C, solid waste is subject to RCRA's treatment requirements at the moment it exhibits a hazardous characteristic; and the waste may leave the RCRA system only when treated pursuant to RCRA section 3004 (m)(1) or when disposed in a facility meeting the

no migration requirement of RCRA section 3004(g). Because surface impoundments are technically "land disposal" facilities, NRDC petitioners argue that placement of "decharacterized" wastes in these CWA impoundments before treatment pursuant to section 3004(m) violates RCRA's land ban. Similarly, NRDC petitioners assert that the rule permitting dilution in lieu of treatment prior to deep well injection violates RCRA because it allows land disposal of untreated hazardous wastes. The Fertilizer Institute argues that the EPA's new interpretive guidance for the dilution prohibitions should be struck down because they were promulgated without adequate notice and comment and that the new dilution prohibition is overly restrictive.

For reasons that will follow, we grant in part and deny in part the challenges of NRDC petitioners; and we deny *in toto* the claims raised by the Fertilizer Institute. We hold that the new CWA dilution permission is valid where the waste is decharacterized prior to placement in a CWA surface impoundment and subsequently treated in full conformity with section 3004(m)(1) standards. Aggregation prior to treatment is not per se unacceptable. Aggregation itself occurs in tanks and is, therefore, not "land disposal"; and RCRA does not *require* treatment before aggregation.

To the extent that aggregation in tanks and dilution results in the removal of the waste's characteristic and the minimization of the toxicity of the constituents as required under section 3004(m), all that RCRA commands has been achieved. However, where aggregation and dilution does not eliminate the characteristic or (more likely) does not minimize the tox-

icity of the constituents, then RCRA requires further treatment.

In those instances where aggregation and dilution result in the elimination of the characteristic, but the toxicity of the constituents has not been minimized, the required further treatment of the constituents may occur after the waste leaves the CWA tank and enters the surface impoundment.[4] Although a surface impoundment is technically a form of "land disposal," and treatment therein normally would be at odds with the commands of RCRA, this approach is nonetheless acceptable because RCRA requires some accommodation with CWA. However, in all other respects, treatment of solid wastes in a CWA surface impoundment must meet RCRA requirements prior to ultimate discharge into waters of the United States or publicly owned treatment works ("POTWs"). If the treatment in the CWA surface impoundment succeeds in removing the toxicity to the extent 3004(m)(1) would have required, then RCRA does not require a separate treatment regimen. In other words, what leaves a CWA treatment facility can be no more toxic than if the waste streams were individually treated pursuant to the RCRA treatment standards.

Applying the same principles to the deep injection well rule, we hold that dilution is permissible prior to injection only where dilution itself fully meets the section 3004(m)(1) standards.

---

[4] Where aggregation and dilution does not eliminate the characteristic, the waste is still technically "hazardous" and cannot be placed (even temporarily) in an unlined CWA surface impoundment.

A. Clean Water Act Treatment Systems

1. *Background*

The Federal Water Pollution Control Act, popularly known as the Clean Water Act, establishes a comprehensive treatment regime to eliminate "the discharge of pollutants into the navigable waters" of the United States. CWA § 301(a), 33 U.S.C. § 1251 (1988). In general, the CWA prohibits the discharge of any pollutant into the waters of the United States. CWA § 301(a), 33 U.S.C. § 1311(a) (1988). "This basic rule admits of a critical exception—the discharge of pollutants is permitted if the source obtains and complies with a permit that limits the amounts and kinds of pollutants which can lawfully be discharged." *NRDC v. EPA*, 822 F.2d 104, 108 (D.C. Cir. 1987). Regulations for permits are established through the Clean Water Act effluent guidelines and pretreatment standards and are applied through the National Pollutant Discharge Elimination System ("NPDES"); permits are issued thereunder to qualifying owners and operators of facilities that discharge into waters of the United States or POTWs. *See* CWA §§ 401, 402, 33 U.S.C. §§ 1341, 1342 (1988).

Treatment facilities operating pursuant to the CWA CWA often receive waste streams from many sources, and generally these streams are combined for centralized treatment. Following aggregation, the facilities sometimes place the combined stream in unlined surface impoundments as part of the CWA treatment train. These impoundments do not meet RCRA subtitle C standards and they are regulated solely under RCRA subtitle D (solid wastes). However, as the EPA noted in the final rule, the use of surface im-

poundments for solid wastes clearly implicates the land ban under RCRA. *See* 55 Fed. Reg. at 22,657. The CWA treatment facilities at issue here do not handle listed hazardous wastes; thus, prior to the third-third proceeding, which classified and identified the characteristic hazardous wastes, the use of an unlined surface impoundment did not implicate RCRA at all.

In addition, under RCRA rules prior to the third-third proceeding, the EPA prohibited dilution of any hazardous waste. Thus, once a waste was determined to be hazardous, it had to be "treated" under RCRA; dilution was not a form of treatment, nor could it be used to avoid RCRA's treatment rules:

> No generator, transporter, handler, or owner or operator of a treatment, storage, or disposal facility shall in any way dilute a restricted waste or the residual from treatment of a restricted waste as a substitute for adequate treatment to achieve compliance with Subpart D of this part, to circumvent the effective date of a prohibition in subpart C of this part, to otherwise avoid a prohibition in subpart C of this part, or to circumvent a land disposal prohibition imposed by RCRA section 3004.

40 C.F.R. § 268.3 (1989); *see also, e.g., Land Disposal Restrictions for Certain "California List" Hazardous Wastes*, 52 Fed. Reg. 25,760, 25,778 (1987) ("EPA [is] amend[ing] the § 268.3 dilution prohibition . . . to include dilution to avoid a prohibition in Subpart C of Part 268 (*e.g.*, a dilution to below the restrictions levels for the California list wastes) and dilution to circumvent the effective date of a Subpart C prohibition on land disposal."). The EPA specifically noted, however, that it did not intend to pro-

hibit "legitimate aggregation of waste streams (*e.g.*, wastewaters) to facilitate centralized treatment." *Id.*

Although CWA treatment facilities handled characteristic wastes before the adoption of the third-third rule, there were no land-ban requirements under RCRA directed at these wastes. Thus, as to these wastes, CWA facilities faced no restrictions under RCRA prior to the third-third rule. After promulgation of the third-third rule, however, CWA facilities handling characteristic wastes became subject to potential regulation under RCRA's subtitle C impoundment and land-ban requirements.

> For listed wastes, there are generally no overlapping CWA and RCRA treatment requirements for wastewater ultimately discharged to a water of the United States or POTW . . . . Some of these facilities, however, generate waste which exhibits a hazardous characteristic but after mixing with other waste streams ceases to exhibit that characteristic prior to placement in a subtitle D surface impoundment which is part of the wastewater treatment train. These surface impoundments are land disposal units for purpose of LDR prohibitions. The practice of mixing could thus trigger LDR dilution rules.

55 Fed. Reg. at 22,267. The EPA noted that, if these CWA facilities were required to meet RCRA standards fully, this "would create significant regulatory disruption," *id.*, because each facility would be forced "either to (1) treat the waste prior to placement in the surface impoundment, (2) obtain a 'no migration[']' variance, (3) comply with section 3005 (j)(11) [setting standards for surface impoundments which treat hazardous wastes,] or (4) install tank

treatment instead of using surface impoundments," *id.* n.14.

To meet its concern over forcing CWA facilities to meet RCRA's subtitle C requirements, the EPA amended section 268.3. The amendment provides that CWA treatment facilities do not violate section 268.3 when they aggregate characteristic wastes for which no specific treatment method has been detailed with other waste streams and thereby dilute the wastes to below the characteristic level.

> Dilution of wastes that are hazardous only because they exhibit a characteristic in a treatment system which treats wastes subsequently discharged to a water of the United States pursuant to a permit issued under section 402 of the Clean Water Act (CWA) or which treats wastes for purposes of pre-treatment requirements under section 307 of the CWA is not impermissible dilution for purposes of this section unless a method has been specified as the treatment standard in § 268.42.

40 C.F.R. § 268.3(b) (1991).[5] The phrase "unless a method has been specified as the treatment standard in § 268.42" makes clear that dilution is permitted only for those waste streams that the EPA has otherwise permitted to be "treated" by dilution, that is, ICR wastes, *and* those EP toxic metal wastes for which the EPA has required treatment to a specific level (as opposed to by a specific method).[6] Because

---

[5] The former § 268.3 was renumbered § 268.3(a).

[6] *See* 40 C.F.R. § 268.41 (1991) (listing EP toxic metal characteristic wastes for which a treatment level has been specified). By contrast, a CWA facility could not aggregate

this dilution removes the characteristic prior to placement in the unlined surface impoundment, the EPA claims that RCRA is satisfied—no land disposal of "hazardous waste" occurs.

NRDC petitioners challenge the amendment permitting dilution before wastes are placed in CWA surface impoundments. Because RCRA requires treatment before any land disposal (unless the land disposal facility wins a no-migration finding) and because CWA surface impoundments are "land disposal facilities," merely diluting the characteristic wastes to remove the characteristic does not satisfy the statute.

2. *Analysis*

We already have held that RCRA section 3004 (m)(1) requires treatment both to remove the characteristic *and* to substantially reduce the toxicity of *all* hazardous constituents present in the characteristic waste.[7] The treatment standards are the core of RCRA's hazardous waste management scheme, and nothing in RCRA or the CWA permits the EPA to establish different treatment standards when wastewaters are treated in CWA systems instead of facilities operated solely to RCRA standards. Nevertheless, Congress, when enacting RCRA, was cognizant

---

a stream that was hazardous because it was characterized as a high total organic compound ignitable nonwastewater. *See* 55 Fed. Reg. at 22,657; *id.* at 22,544 (requiring incineration of high total organic compound ignitable nonwastewaters).

[7] "No amount of agency expertise" can change the meaning of the statute Congress enacted here. *Board of Governors, Federal Reserve System v. Dimension Fin. Corp.*, 474 U.S. 361, 368 (1986).

of the substantial development of CWA systems, and, thus, permitted regulatory "accommodation" of RCRA and CWA systems. Thus, we agree with the EPA that, under RCRA, diluted formerly characteristic wastes may be placed in subtitle D surface impoundments which are part of an integrated CWA treatment train. However, in order for true "accommodation" to be accomplished, we find that RCRA treatment requirements cannot be ignored merely because CWA is implicated; that is, the CWA does not *override* RCRA. Thus, we hold that, whenever wastes are put in CWA surface impoundments before they have been treated pursuant to RCRA to reduce the toxicity of all hazardous constituents, these wastes must be so treated before exiting the CWA treatment facilities. In other words, CWA facilities handling characteristic wastes must remove the characteristic and decrease the toxicity of the waste's hazardous constituents *to the same degree* that treatment outside a CWA system would.

NRDC petitioners and the EPA disagree primarily because they each view differently the waste stream after it has been aggregated but before it has been placed in the CWA surface impoundment. The EPA suggests that, because the formerly characteristic wastes no longer exhibit the characteristic which classifies the waste as "hazardous," no impermissible land disposal of hazardous wastes occurs. By contrast, NRDC petitioners see that hazardous wastes are handled in a way that does *not* meet the requirements of section 3004(m)(1) and are then land disposed. When a waste which is hazardous because of some constituent, for example a metals-bearing wastewater, is diluted, the *concentration* of the metals is decreased, but dilution does not prevent any of the metals from entering the environment.

We begin with the definition of section 3004(m)(1), which the EPA has conceded means elimination of the hazardous characteristic *and* reduction of all the hazardous constituents. The EPA cannot colorably claim that RCRA permits lesser treatment in this part of the case than in the first part of this case. It is also conceded that the individual waste streams sent to the CWA treatment facility are, before aggregation, hazardous wastes. Therefore, the wastes must be treated pursuant to the 3004(m)(1) standards. The EPA's joinder, that because the wastes being placed in the surface impoundment are no longer "hazardous" they need not be treated, is exactly the argument industry petitioners previously made and the EPA rejected. RCRA attaches to "hazardous wastes" that are destined for land disposal facilities and the statute requires complete treatment. The EPA cannot take a position here radically at odds with its prior position. RCRA requires treatment that removes the characteristic and substantially reduces the toxicity of all hazardous constituents.

Nevertheless, the EPA is correct that Congress, when enacting RCRA, recognized that prior environmental statutes, such as the Clean Water Act, would need to be accommodated.

> The Administrator shall integrate all provisions of this chapter for purposes of administration and enforcement and shall avoid duplication, to the maximum extent practicable, with the appropriate provisions of the . . . Federal Water Pollution Control Act [and] the Safe Drinking Water Act . . ., and such other Acts of Congress as grant regulatory authority to the Administrator. Such integration shall be effected only

> to the extent that it can be done in a manner consistent with the goals and policies expressed in this chapter and in the other acts referred to in this subsection.

RCRA § 1006(b)(1), 42 U.S.C. § 6905(b)(1)(1988); *see* 55 Fed. Reg. at 22,654, 22,657. The EPA's decision to permit "decharacterized" hazardous wastes to be deposited in surface impoundments as part of continuing treatment is a reasonable accommodation.

We wish to make explicit the impact of our holding because we find merit in significant parts of both parties' positions. First, where dilution to remove the characteristic *meets* the definition of treatment under section 3004(m)(1), nothing more is required. Second, where dilution removes the characteristic but does not "treat" the waste by reducing the toxicity of hazardous constituents, then the decharacterized waste may be placed in a surface impoundment *if and only if* the resulting CWA treatment fully complies with RCRA § 3004(m)(1). In other words, the material that comes out of CWA treatment facilities that employ surface impoundments must remove the hazardous constitutents to the same extent that any other treatment facility that complies with RCRA does.[8]

---

[8] To illustrate RCRA's focus on treatment of the hazardous constituents in a waste, consider a waste stream hazardous by characteristic for cadmium. Both the characteristic and treatment levels for the hazardous waste are 1.0 mg/l. Assume that a stream of 3.0 mg/l daily deposits 1000 liters into a treatment facility. A RCRA treatment facility would remove at least 2000 mg of cadmium from the waste stream. A CWA treatment facility must do the same—although to do so it will have to process at least three times as much water (because dilution of 1000 liters of 3.0 mg/l to just below the

This result satisfies RCRA's requirement that any accommodation "be done in a manner consistent with the goals and policies" of *both* RCRA and CWA, RCRA § 1006(b)(1); the EPA's approach does not.[9] First, under this approach, treatment is accomplished in conformance with section 3004(m)(1). While section 1006(b)(1) requires some accommodation with existing treatment regimes, that section by its terms does not permit the substantive standards of RCRA to be compromised. The treatment standards are the heart of RCRA's hazardous waste management program. Section 3004(g), 42 U.S.C. § 6924(g), permits land disposal only after treatment or in a facility which meets the strong no-migration standard. The Conference Report stressed that "through the vigorous implementation of the objectives of this Act, . . . advanced treatment, recycling, incineration and other hazardous waste control technologies should replace land disposal." H.R. Conf. Rep. No. 1133, 98th Cong., 2d Sess. 80 (1984); *see also* 130 Cong. Rec. 29,529 (1984) ("The regulatory

---

characteristic level will yield just over 3000 liters). Allowing dilution alone would decharacterize the waste, but it would not reduce the total amount of cadmium entering the environment. One thousand liters of 3.0 mg/l cadmium yields the same amount of hazardous constituent as 3000 liters of 1.0 mg/l cadmium.

[9] "The traditional deference courts pay to agency interpretation is not to be aplied to alter the clearly expressed intent of Congress." *Board of Governors*, 474 U.S. at 368; *see also K Mart Corp. v. Cartier, Inc.*, 486 U.S. 281, 293-94 (1988). Section 1006(b)(1) requires that any "accommodation" remain true to the goals of all of the relevant environmental statutes; RCRA's treatment standards, not the lowest common denominator, must survive any attempt to integrate the statutes.

program mandated by this bill, if conscientiously implemented, will force a massive change in this country's disposal practices: That is, away from land disposal and toward appropriate recycling, waste reduction and treatment."). Second, nothing in RCRA demands, as NRDC petitioners would suggest, that treatment occur prior to aggregation or dilution or that dilution not be a step in the treatment process. Third, the diluted streams deposited in the surface impoundment are not "hazardous" when placed there, and they are not held there permanently.

In this last regard, this case differs from *API*, 906 F.2d 729. In that case, which considered aspects of the first-third rule, several industry representatives challenged the EPA's decision not to consider land treatment as a form of treatment for hazardous wastes under section 3004(m)(1). The court affirmed the EPA's action, ruling that land treatment was a form of land disposal and that "RCRA clearly specifies . . . that hazardous wastes must be treated *before* being land disposed." *Id.* at 735. The *API* court also noted that "[p]ursuant to 42 U.S.C. § 6925(j)(11), Congress allowed surface impoundments (a type of land disposal unit under § 6924(k)) to receive, on an interim basis, hazardous wastes that have not been treated to meet § 6924(m) standards" *only* so long as the impoundments met certain minimum technological standards. *Id.* at 736; *see* RCRA § 3004(o)(1), 42 U.S.C. § 6924(o)(1) (1988) (requiring double-lining, leachate collection and groundwater monitoring). Here, however, the liquids, at the time they are placed in the surface impoundments, are not technically "hazardous wastes," although they are fully subject to RCRA's strictures because they were hazardous and have

not yet met the treatment requirements. Additionally, the liquids here are only placed in the surface impoundments temporarily; in *API*, the "land treatment" represented the final resting place of the hazardous wastes.

In sum, section 3004(m)(1)'s treatment standards lie at the core of RCRA subtitle C and require that any hazardous waste be treated in such a way that hazardous constituents are removed from the waste before it enters the environment. Nonetheless, RCRA section 1006(b)(1) contemplates some accommodation with existing CWA systems; to strictly apply each RCRA prohibition would nullify section 1006(b)(1) and, we think, would be untrue to Congress's intent. Thus, allowing temporary deposit of decharacterized wastes is a reasonable accommodation so long as complete circumvention of the treatment standards does not occur. Finally, we emphasize that the result here is unique to CWA systems. Nothing herein permits the placement (temporarily or otherwise) of hazardous wastes or formerly hazardous wastes which have not yet met section 3004(m)(1) treatment standards into non-subtitle C surface impoundments *except* in existing CWA treatment systems which ultimately treat the streams to full section 3004(m)(1) standards.[10]

---

[10] Furthermore, as the EPA concedes in its brief, if the stream entering the surface impoundment is not decharacterized, then RCRA requires the impoundment to meet the subtitle C requirements. Similarly, any hazardous precipitate or other hazardous material generated during CWA treatment must be managed in accord with subtitle C.

B. Deep Injection Wells Regulated Under the Safe Drinking Water Act

1. *Generally*

In the final third-third rule, the EPA promulgated a dilution rule for deep injection well facilities similar to the CWA treatment facilities rule just considered. Under new 40 C.F.R. § 148.1(d) (1991), operators of deep injection wells [11] are permitted to dilute characteristic wastes to remove the characteristic prior to injecting those wastes. Unlike the CWA dilution permission, operators of deep injection wells may dilute all characteristic hazardous wastes, *including* those for which a specific treatment method is required (for example, high total organic compound ignitable wastes, which otherwise must be incinerated or utilized as fuel substitute). *Cf.* 40 C.F.R. § 268.3(b) (waste may not be diluted in a CWA system if "a method has been specified as the treatment standard in § 268.42"). NRDC petitioners again charge that the rule violates RCRA because hazardous wastes are land disposed before being treated to section 3004(m)(1) standards; the EPA argues that the rule meets RCRA because no "hazardous" wastes are injected and that the rule is a necessary accommodation with the SDWA, which governs deep well injection generally. Consistent with our resolution of the Clean Water Act systems issue, we hold that dilution followed by injection into a deep well is permissible only where dilution itself fully meets section 3004(m)(1) standards or where

---

[11] The deep injection wells at issue here, Class I deep wells, inject wastewaters into geologic formations *below* the lowest formation containing a source of drinking water. *See* 40 C.F.R. 144.6(a) (1991).

the waste will subsequently meet section 3004(m)(1) standards. Because deep well injection is permanent land disposal, our holding in effect permits diluted decharacterized wastes to be deep well injected only when dilution meets the section 3004(m)(1) standard or where the deep well secures a no-migration variance.

Before the third-third rule, many deep injection wells handled characteristic wastes without being subject to subtitle C requirements. Therefore, the EPA promulgated section 148.1(d) for reasons similar to those it offered to support section 268.3(b). In general, the EPA claimed that the rule was required to protect existing SDWA systems. "The large facilities that have these wells often mix waste streams and through this mixing remove the characteristic prior to disposal. A dilution prohibition would require restructuring of these facilities." 55 Fed. Reg. at 22,658.

The EPA also argued that treatment to RCRA standards would provide no environmental benefit over dilution and injection. The "EPA believes that the application of dilution rules to these wastes would not further minimize threats to human health and the environment. Specifically, EPA believes that disposal of these metals by underground injection at the characteristic level is as sound as the treatment option." *Id.*; *see also id.* (quoting floor statement of Senator Bentsen commenting on safety of underground injection). The EPA additionally concluded that all injection wells would meet the no-migration requirement, and the Agency therefore held that it would not require individual no-migration showings. *Id.*

We reject each of the EPA's proffered justifications. Unlike the CWA system context, where the hazardous wastes can be eventually treated to RCRA standards, injected wastes are not treated further. Section 1006(b)(1) cannot be used to wholly circumvent RCRA. To permit deep well injection operators to dilute all characteristic wastes to below the characteristic level and then to inject them would completely avoid the balance Congress struck in RCRA. Specifically, Congress required that any land disposal of hazardous waste be preceded by treatment to section 3004(m)(1) standards *or* by a site-specific no-migration finding. Although we have found the temporary placement of decharacterized wastes in CWA surface impoundments, which admittedly are land disposal facilities, to be a reasonable accommodation with the CWA, that holding turns on the prospect for future treatment so that the core of RCRA is not voided. Here, no treatment follows decharacterization.

Additionally, this court previously has rejected the argument that SDWA standards meet RCRA requirements. In *NRDC v. EPA*, 907 F.2d 1146 (D.C. Cir. 1990) (*per curiam*), the industry petitioners claimed that the EPA's deep injection well standards there at issue were too stringent and argued that the SDWA provided sufficient protection. The court found against the industry petitioners by referring to the differing purposes of the two statutes.

> The texts of RCRA and SDWA provide no support for the [Chemical Manufacturing Association]'s identity argument. SDWA protects sources of drinking water; RCRA protects human health and the environment. SDWA states that underground injection must not endanger

> drinking water sources; RCRA states that there must be no migration of hazardous constituents from the injection zone for as long as the wastes remain hazardous; it makes no reference to anything outside the injection zone that might be threatened by such a migration. The statutory texts provide no evidence whatsoever that Congress intended that the RCRA and SDWA standards be identical.

Id. at 1157; *see also id.* (specifically rejecting reliance on Senator Bentsen's floor statements). Nothing the EPA has pointed to in the record suggests that deep injection wells *will* contain the diluted wastes (such as diluted metal-bearing streams). The EPA refers to its Background Document, but its statement there refers to no studies or other hard evidence the Agency has accumulated.

> EPA believes that deep well disposal of these metals at concentrations below the characteristic level may be as sound as the treatment option. Native formation fluid injection zones already contain substantial concentrations of these metals. The addition of more metal-bearing fluid below characteristic levels would not change this general feature of the subsurface environment. Moreover, the propensity of such metals to adhere to and thereby generally stay contained in the injection zones make the practice of deep well disposal of such constituents an environmentally sound one.

Background Document, supra, at 269, *reprinted in* J.A. at 405.

The EPA's second argument, that modification of deep injection well systems to require either pretreatment of characteristic wastes or issuance of

case-by-case no-migration permits would be too burdensome, is simply irrelevant. Deep well injection is a form of land disposal. The statute provides no exemption for systems which must be retrofitted, other than a national capacity variance. *See* RCRA § 3004(h), 42 U.S.C. § 6924(h) (1988) (the EPA may suspend regulations for up to two years where inadequate treatment capacity exists).

Finally, Congress decided that no-migration showings were the only alternative to treatment under section 3004(m)(1). *See* RCRA § 3004(g), 42 U.S.C. § 6924(g). The EPA's claim that its experience showed, in general, that deep injection wells would win no-migration variances is not relevant under Congress's requirement that each site be certified, *see* RCRA § 3004(g), 42 U.S.C. § 6924(g), and is belied by the EPA's record evidence, *see* United States Environmental Protection Agency, State-of-the-Art Report, Injection of Hazardous Wastes into Deep Wells (1986) ("This survey also indicates that additional research is needed in all areas of abiotic and biotic waste interactions before definitive explanations can be given on their long-term fate."), *reprinted in* J.A. at 248.

2. *The Treatment Standard for Lead Wastewaters*

In another example of its decision to "accommodate" treatment regimes based on the SDWA, the EPA set the treatment standard for lead wastewaters at the characteristic level of 5.0 milligrams per liter (mg/l) lead. In accord with our decisions that accommodation cannot moot the 3004(m)(1) treatment standard, we hold that the 5.0 mg/l standard violates RCRA, and we remand that part of the rule to the Agency for further consideration.

In the proposed rule, the EPA suggested a treatment standard of 0.04 mg/l for D008 lead wastewaters. *See* 55 Fed. Reg. at 22,567. Many commenters submitted data challenging that level as too low, but all of the data did suggest that optimal treatment could achieve a level at least an order of magnitude *lower* than the 5.0 mg/l characteristic level. *See id.* (reviewing data submissions). In the final rule, the EPA conceded that, while its proposed treatment level could not be achieved, a treatment level *below* the characteristic level was possible. "Based on the evaluation of all of the wastewaters data received from comments, as well as the various Clean Water Act, effluent limitation guidelines and pretreatment standards regulating lead . . ., the Agency concludes that well designed and well operated treatment systems can achieve total concentrations of lead lower than the characteristic level." *Id.* The EPA's only reason for rejecting a treatment standard below the characteristic level was a reference to its decision, considered previously, that the Agency could integrate RCRA with other regulatory programs.

> As explained in Section III.D, however, EPA has determined not to require hazardous wastewaters to be treated to levels less than the characteristic level in order to avoid significant and potentially environmentally counterproductive disruptions to the NPDES/pretreatment and UIC [deep injection well] programs.

Id. (referring to 55 Fed. Reg. at 22,651).

The keys to this argument largely have been examined previously. The treatment standards embodied in section 3004(m)(1) are the heart of RCRA; section 1006(b)(1) does not permit concern for existing

treatment regimes to override RCRA's substantive requirements.

The EPA's approach on the record is also somewhat flawed. Its reference to the discussion of point of disposal versus point of generation seems to suggest that the EPA will not consider the waste hazardous if it has been diluted to below the characteristic level in a CWA treatment facility. But, the EPA did not follow this approach in the final rule; instead, it stated that "the Agency is promulgating the treatment standard at the characteristic level, thereby treaters and generators of D008 wastewaters may select any precipitant in order to meet the characteristic level." *Id.* Therefore, the EPA has set a treatment level and, by contrast, *has not* exempted lead wastewaters from subtitle C regulation until such time as they might be land disposed (i.e., a point of disposal approach). Because the EPA has conceded that treatment to 0.4 mg/l is possible, its 5.0 mg/l standard violates section 3004(m)(1)'s requirement that the EPA select levels or methods of treatment "so that short-term and long-term threats to human health and the environment are *minimized*." RCRA § 3004(m)(1), 42 U.S.C. § 6924(m)(1) (emphasis added).

C. The Fertilizer Institute's Challenges to the Dilution Rules

The Fertilizer Institute challenges two aspects of the third-third rule that clarify the scope of the dilution prohibition of Rule 268.3(a).[12] The EPA stated in the final rule that impermissible dilution occurred *whenever* waste streams are combined *and* the combined stream is not treated in a manner

[12] Petitioner does not challenge Rule 268.3(b), discussed earlier, which permits certain dilution.

appropriate for each individual waste.[13] Petitioner claims that the EPA's statements constitute "rules"[14] that were issued without notice and opportunity to comment and are impermissibly vague. Additionally, petitioner asserts that Rule 268.3(b) arbitrarily excludes from its scope listed wastes with concentration-based treatment standards.

The Fertilizer Institute is concerned primarily with the operation of central treatment facilities designed pursuant to the CWA. These facilities, as discussed above, often accumulate waste streams for centralized treatment. The EPA's statements clarify that the CWA treatment facility must utilize treatment appropriate for *all* of the incoming waste streams. The prohibitory part of Rule 268.3 states that dilution "as a substitute for adequate treatment . . ., to circumvent the effective date of a prohibition . . ., to otherwise avoid a prohibition, . . . or to circumvent a land disposal prohibition" is impermissible. 40 C.F.R. § 268.3(a). In the final rule, the EPA stated that the section meant that, "[a]s a general rule, if the wastes are all *legitimately amenable* to the same type of treatment, and this method of treatment is utilized for the aggregated wastes, the aggregation step does not constitute impermissible dilution." 55 Fed. Reg. at 22,532 (emphasis added). The EPA also offered several examples of the operation of this rule. Petitioner focuses on the third example, in which the EPA stated that impermissible

---

[13] This, of course, does not apply in the deep injection well context just discussed.

[14] In its brief, the Fertilizer Institute repeatedly calls these statements the "two new impermissible dilution rules." They were not, however, codified by the EPA in any way.

dilution occurs where a metals-bearing waste stream is mixed with an organic stream such that the combined stream is no longer characteristic for metals and the combined stream is treated for organics only. *Id.* at 22,666-67.

1. *Notice and Opportunity to Comment*

The Administrative Procedure Act requires agencies to give the public notice of proposed regulations and an opportunity to participate through submission of comments. 5 U.S.C. § 553(b), (c) (1988). In general, to meet section 553, an agency must "provide sufficient factual detail and rationale for the rule to permit interested parties to comment meaningfully." *Florida Power & Light Co. v. United States*, 846 F.2d 765, 771 (D.C. Cir. 1988), *cert. denied*, 490 U.S. 1045 (1989). Nonetheless, the final regulations need not exactly match those proposed. As this court recently explained in *Shell Oil*, "To avoid the absurdity that the agency can learn from the comments on its proposals only at the peril of starting a new procedural round of commentary, we have held that final rules need only be a 'logical outgrowth' of the proposed regulations." 950 F.2d at 750-51 (internal quotations and citations omitted).

Here, the EPA gave adequate notice. In fact, the Agency explicitly stated in the proposed rule that it considered dilution which met the treatment level without undergoing the required treatment impermissible. 54 Fed. Reg. at 48,494 ("The Agency's concern, echoing Congress's concern in indicating that dilution to avoid proper treatment was impermissible, is that individual prohibited wastes not be mixed with large volumes of other wastes (whether prohibited or

not) to meet treatment standards without undergoing treatment that substantially reduces the prohibited wastes' toxicity or mobility.") (citation omitted). As we have stated, dilution cannot eliminate the need to treat each formerly hazardous waste to full compliance with § 3004(m)(1).

In the proposed rule, the EPA also offered several examples of impermissible dilution where a combined waste stream was treated for only one type of waste. In fact, the EPA offered the exact flip of the metals example that the Institute claims was unheralded.

> Of course, even where one BDAT constituent is treated to reduce its toxicity or mobility, impermissible dilution might occur. For example, a waste with treatable concentrations of metals as well as extremely high concentrations of hazardous organics could be mixed with large volumes of other metal-bearing wastes for metals treatment. To the extent that the high concentrations of organics are diluted by this treatment to below treatable levels, this would constitute impermissible dilution if there is an appropriate organics treatment technology that could be applied prior to metals treatment.

54 Fed. Reg. at 48,495. Thus, petitioner's argument that the "metals example" constituted a new rule is meritless. The no-dilution principles the Agency proposed were clear—the metals example is a direct application.

Petitioner nonetheless persists and argues that the proposed rule gave no hint that the impermissible dilution rule would turn in part on whether the mixed stream was a characteristic waste or a listed waste.

Admittedly, the EPA did not until its final rule contend that deactivation/dilution would be an acceptable form of treatment for many characteristic wastes. Nonetheless, the EPA did note in the proposed rule that the dilution prohibition was limited to cases where dilution was part of the treatment. *See id.* ("EPA believes that the standards of section 3004(m) apply to all wastes destined for a prohibited form of land disposal. It is not permissible to dilute a waste to render it nonhazardous in lieu of proper treatment under section 3004(m) (unless dilution is a part of proper treatment under section 3004(m).)"). Thus, the EPA directly foreshadowed its final interpretation.

2. *Is the Rule Impermissibly Vague?*

The Fertilizer Institute also argues that the EPA's statement that, "[a]s a general rule, if the wastes are all *legitimately amenable* to the same type of treatment, and this method of treatment is utilized for the aggregated wastes, the aggregation step does not constitute impermissible dilution," 55 Fed. Reg. at 22,532 (emphasis added), is impermissibly vague. An agency "has the responsibility to state with ascertainable certainty what is meant by the standards [it] promulgate[s]." *Diamond Roofing Co. v. OSHA*, 528 F.2d 645, 649 (5th Cir. 1976). The EPA has satisfied this requirement; therefore, we reject the Institute's challenge. The principle behind the regulation can be easily stated—that combination for centralized treatment is acceptable only where the centralized treatment covers all of the constituent streams—and the "legitimately amenable" language is simply an expression of this principle.

Additionally, the Agency has provided several clarifying examples. Therefore, the meaning of the language has been made applicable to certain concrete cases. Petitioner has not suggested any significant factual circumstance that falls near the edge of coverage which causes the regulated community substantial hardship because of the uncertainty. The Agency and the courts can decide whether the language gives sufficient notice as those circumstances arise. Finally, RCRA contemplates a permitting process through which each individual facility can work with the EPA to determine exactly what dilution would be prohibited. RCRA § 3005, 42 U.S.C. § 6925 (permitting of subtitle C facilities). *Cf. Keeffe v. Library of Congress*, 777 F.2d 1573, 1581 (D.C. Cir. 1985) (regulation not vague in part because employee could submit proposed activity to Library prior to engaging in it and receive a definitive ruling).

3. *Should Rule 268.3(b) Include Listed Wastes for which the EPA has Developed Concentration-Based Treatment Standards?*

Rule 268.3(b) permits characteristic wastes for which no method of treatment has been specified to be aggregated in a CWA facility. The Fertilizer Institute contends that the rule arbitrarily excludes listed wastes for which the EPA has promulgated a concentration-based treatment standard. We reject this Argument; the distinction is based on the primary difference between listed wastes and characteristic wastes.

In its brief to this court, the EPA suggests that its decision was not arbitrary because listed wastes are already treated in facilities which meet RCRA

requirements. Therefore, because the exemption in section 268.3(b) was motivated primarily by a desire to avoid retrofitting CWA facilities, exclusion of listed wastes was logical because those facilities already had been retrofitted. The EPA also argues that the "derived from" rule [15] demonstrates that landfill leachates have always been subject to subtitle C regulation. Therefore, any mixing presently occurring would be illegal. Nevertheless, the EPA fails to confront petitioner's contention that CWA facilities which presently are not required to meet RCRA requirements will be forced to do so in two cases: (1) if characteristic wastes are not excluded by Rule 268.3(b), *and* (2) as new wastes are identified as listed wastes. The latter scenario is not met by the EPA's suggestion that the distinction is based on the cost of retrofitting.

Petitioner's argument nonetheless fails because listed wastes are, in any event, fundamentally different from characteristic wastes. As discussed in Part I of this opinion, listed wastes generally contain a certain substance that is per se harmful (such as arsenic). Dilution does nothing to remove that element from the waste stream and prevent it from entering the environment where it may reaccumulate. By contrast, some characteristic wastes may be altered permanently by dilution and, hence, it is reasonable to permit aggregation. In these cases, dilution and treatment are one and the same.

---

[15] The derived from rule provided that any substance which was a product of a hazardous waste was itself a hazardous waste. The derived from rule was vacated for inadequate notice and opportunity to comment in *Shell Oil* but has now been repromulgated.

The fact that a rule may be justified on alternate grounds, however, will not normally save it from remand. *See SEC v. Chenery Corp.*, 318 U.S. 80, 95 (1943). Although the EPA does not offer this argument in its brief, it is well made in the final rule. The EPA explicitly linked its approach to the dilution prohibition to its view that dilution constituted acceptable treatment for some characteristic wastes.

> Dilution rules are intended to prohibit dilution in lieu of treatment and to ensure that wastes are treated in appropriate ways. As discussed in the preamble sections on treatment of characteristic wastes, EPA believes the mixing of waste streams to eliminate certain characteristic[s] is appropriate for most wastes which are purely corrosive, or in some cases, reactive or ignitable. As a general matter, these are properties which can effectively be removed by mixing. On the other hand, simple dilution is not effective treatment for toxic constituents. Dilution does not itself remove or treat any toxic constituent from the waste.

55 Fed. Reg. at 22,656. Thus, the EPA has adequately justified excluding listed wastes from the scope of Rule 268.3(b). *Cf. Syracuse Peace Council v. FCC*, 867 F.2d 654, 657 (D.C. Cir. 1989) ("if an agency relies on two grounds for a decision, a court may sustain it if one is valid and if the agency would clearly have acted on that ground even if the other were unavailable"), *cert. denied*, 493 U.S. 1019 (1990).

IV. Miscellanea

Finally, various petitioners challenge four additional aspects of the third-third rule: (1) its requirement of periodic corroborative waste testing by disposers (industry petitioners); (2) its adoption of the characteristic level as the waste treatment standard for chromium (NRDC petitioners); (3) its exemption of "Bevill" unit residue from RCRA § 3004(m) standards (NRDC petitioners); and (4) its requirement that waste treatment standards be enforced by grab sampling rather than representative sampling (petitioner Chemical Waste Management, Inc.). For the reasons set out below, we uphold as reasonable the EPA's corroborative testing and grab sampling requirements but remand for reconsideration the chromium treatment standard and the Bevill unit exemption.

A. Corroborative Testing

First, industry petitioners challenge the final rule's requirement that disposal facilities periodically test waste that has already been tested and certified to be in compliance either by the waste generator or a third-party treatment facility.[16] The final rule provides:

> Under the final approach, treatment and disposal facilities may generally rely on information provided to them by generators or treaters of the waste. However, treatment and disposal facilities must conduct periodic detailed physical and chemical analysis on their waste streams to assure that the appropriate [40 C.F.R.] part 268

[16] This challenge is made by petitioners Chemical Waste Management, Inc., and RSR Corp. and intervenor The Dow Chemical Company.

> treatment standards are being met. Specifically, today's final rule amends the comment in [40 C.F.R.] §§ 264.13 and 265.13 to make it clear that the restricted waste testing requirement (or other frequency approved by the Agency) is not superseded by the ability of the facility to rely on information supplied by the generator or treater. Also, with today's change, § 264.13 more clearly specifies that EPA may, through the permit, require the owner or generator of a treatment or disposal facility to conduct periodic chemical and physical analysis prior to treatment or other management of wastes.

55 Fed. Reg. at 22,669. Petitioners object to the requirement that disposers conduct periodic waste analysis on the grounds that it is (1) arbitrarily imposed only on off-site disposal facilities, (2) unnecessarily duplicative, and (3) impermissibly vague. We find none of these grounds meritorious.

Initially, we note that the corroborative testing requirement is not, as petitioners contend, discriminatorily imposed only on off-site disposers. As the EPA points out, the quoted language applies equally to disposal on- and off-site. We, therefore, reject petitioners' first ground.

We also reject petitioners' second argument that the requirement is arbitrary and capricious because "duplicative." In its proposed rule, the EPA explained that corroborative testing is desirable "because a crosscheck that treatment has been conducted successfully is needed to ensure that ultimate disposal does not violate the statute and regulations. Corroborative testing will maximize the likelihood of ultimate disposal being legal. The testing will also

provide useful records for ascertaining compliance." 54 Fed. Reg. at 48,497. The EPA echoed this rationale in the final rule, explaining that the requirement was "premised on a need to ensure that the LDR requirements are met *prior* to disposal" and noting that "such corroborative testing provides records that may be useful in ascertaining compliance with LDR requirements." 55 Fed. Reg. at 22,669 (emphasis in original).[17] We find the EPA's rationale clearly reasonable and therefore sustain the requirement under *Chevron*. Whether or not corroborative testing is "necessary," it unquestionably promotes compliance with the mandated standards because it subjects the hazardous waste to a second, corroborating analysis at the point the EPA has consistently characterized as the crucial one, immediately before disposal. *See HWTC III*, 886 F.2d at 370 ("[T]he EPA has explicitly stated that the crucial stage in the process, upon which the agency has placed its heaviest reliance, is the point at which the waste reaches the land disposal facility: at this juncture, just prior to land disposal, waste must be rigorously tested to confirm that it is what others have represented it to be and that it may permissibly be land disposed."). As we observed in *HWTC III*: "[I]t is . . . not irrational for the EPA to introduce a backup, arguably 'redundant' testing stage" at such a critical point to ensure compliance with mandated treatment standards. *Id.* (citing 51 Fed. Reg. at 40,597).

---

[17] The EPA similarly asserts in its brief: "The requirement that disposal facilities do some type of corroborative testing is manifestly reasonable. Such testing of wastes just before they are land disposed assures that the treatment standards have indeed been met." Brief for Respondent at 129 (footnote omitted).

Finally, we do not find the corroborative testing requirement to be impermissibly vague. As the EPA points out, details not set out in the final rule, as, for example, testing frequency, can be resolved on a site-specific, case-by-case basis by the permit writer and the individual waste disposer. *See* 55 Fed. Reg. at 22,669; Brief for Respondent at 131-32. If a particular disposer objects to the requirement as actually imposed, it can challenge the requirement at that time. *See HWTC III*, 886 F.2d at 371 (rejecting as "premature" parties' objection to adequacy of waste testing requirement where specific testing procedures were to be addressed in individual waste analysis plans: "We prefer to anticipate that the agency will faithfully execute its responsibilities under the statute, and will impose testing requirements that will guarantee that Congress' purposes in enacting the statute are implemented. If the agency does not live up to this expectation, there will be time and opportunity for petitioners' challenge.").

B. Treatment Standards for Chromium Wastes

Next, NRDC petitioners challenge the treatment standard the EPA set for D007 chromium wastes. In the proposed rule, the EPA, applying a "technology transfer approach," expressed its intent to set the treatment standard for D007 chromium nonwastewaters at .094 mg/l and D007 chromium wastewaters at .32 mg/l. 54 Fed. Reg. at 48,437. The final rule, however, sets the treatment standard for both waste forms at the characteristic level of 5 mg/l. 55 Fed. Reg. at 22,563-65. NRDC petitioners assert the EPA reached this decision based on an improper view of the evidence. We agree and, accordingly, direct that on remand the EPA reexamine

the appropriate treatment standards for D007 chromium wastes.

In setting the final D007 chromium standard, the EPA considered data submitted by Cyanokem and the Hazardous Waste Treatment Council and concluded they supported a treatment standard at or near the characteristic level. Petitioners assert, and the EPA does not dispute, that the EPA improperly based its calculations on data reflecting both effective and ineffective treatment and inflated the levels supported by the data. Petitioners assert that as a result of this "mathematical wizardry," the EPA incorrectly concluded those data supported a 4.3 mg/l when in fact they indicated a much lower standard, somewhere below 2.1 mg/l. The EPA does not dispute that its calculations were in error. *See* Brief for Respondent at 105. Nevertheless, the Agency asserts any error was harmless because it did not rely on the cited data or erroneous computations in setting the standard at the characteristic level. We disagree.

The Administrative Procedure Act requires that our review of agency action take "due account . . . of the rule of prejudicial error." 5 U.S.C. § 706. That rule notwithstanding, however, remand is required "when there is substantial doubt that the administrative agency would have reached the same result it did absent [the alleged error]." *Consolidated Gas Supply v. FERC*, 606 F.2d 323, 329 (D.C. Cir. 1979). Such doubt exists here. Although the EPA's background document expressly disclaims reliance on the cited data,[18] the language of the final rule suggests otherwise. In the rule, the EPA states:

---

[18] *See* BDAT Background Document for Chromium Wastes at 4-2 to -3 (J.A. 615-16) ("Cyanokem submitted treatment

> The Agency then decided to examine what the treatment standard would be based on all of the data from Cyanokem and the HWTC . . . .
>
> The resultant standard using these combined data was 4.3 mg/l . . . . The Agency contemplated promulgating the 4.3 mg/l standard as an alternative to the 5.2 mg/l from F006; however, this level is so close to the 5.0 mg/l characteristic level that the Agency does not believe the significant regulatory disruptions and uncertainties inherent in applying direct part 268 regulation to D facilities is warranted.
>
> . . . As it is, a measurement of 4.3 mg/l . . . is approximately 86% of the 5.0 mg/l characteristic level and within the analytical error that may be expected for such an analysis.
>
> As a result of these comments and data, EPA is withdrawing both of the proposed treatment standards for D007 wastes (i.e., the transfer from F006 and from K062). While the Agency contemplated promulgating the 5.2 mg/l F006 standard, it is even closer to the characteristic level than the 4.3 mg/l calculated using the commenters' data.

55 Fed. Reg. at 22,564. This discussion indicates that the EPA set the D007 standard at the characteristic level at least in part because of that level's proximity to the one it erroneously calculated from

---

data for treatment of D007 nonwastewaters . . . . Because of the deficiencies in these data, they were not used to develop a treatment standard. * * * The Hazardous Waste Treatment Council submitted stabilization treatment data for treatment of D007 nonwastewaters . . . . [T]hese data were not used to develop the D007 nonwastewater treatment standards.").

the cited data. Thus, we cannot characterize the EPA's computational errors as "harmless" and must remand the issue to the EPA.

C. Exemption of Waste Burned in "Bevill" Units

Next, NRDC petitioners challenge the final rule insofar as it exempts from the section 3004(m)(1) requirements all hazardous waste burned in utility boilers, mining furnaces and cement kilns that qualify as "Bevill" units. In 1980, Congress passed the "Bevill Amendment," which suspended "until at least six months after the date of submission of the applicable study required to be conducted . . . and after promulgation of regulations" any RCRA regulation of

> (i) Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated primarily from the combustion of coal or other fossil fuels.
>
> (ii) Solid waste from the extraction, beneficiation, and processing of ores and minerals, including phosphate rock and overburden from the mining of uranium ore.
>
> (iii) Cement kiln dust waste.

RCRA § 3001(b)(3)(A), 42 U.S.C. § 6921(b)(3)(A). The EPA has implemented the Bevill Amendment exemptions at 40 C.F.R. § 261.4(b)(4), (7) and (8),[19] which the final rule expressly incorporates and applies to its disposal restrictions:

---

[19] These regulations provide:

> (b) *Solid wastes which are not hazardous wastes.* The following solid wastes are not hazardous wastes:
>
> . . . .
>
> (4) Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste, generated primarily from

> The issues in this rulemaking concerning when hazardous wastes become prohibited from land disposal do not change the status of other regulatory or statutory inclusions or exclusions to the definition of solid or hazardous waste found at 40 CFR 261.2-.6. These provisions can override the LDR point of generation evaluation to keep wastes from being prohibited and subject to a dilution prohibition or treatment standard.
>
> . . . EPA has not fully analyzed these exclusions and, in the absence of specific justification, will continue to provide exclusions from the land disposal restrictions for waste excluded from the definition of hazardous or solid waste under 40 CFR 261.2-6.

55 Fed. Reg. at 22,660. Petitioners challenge this provision insofar as it exempts from treatment haz-

---

> the combustion of coal or other fossil fuels, except as provided by § 266.112 of this chapter for facilities that burn or process hazardous waste.
>
> . . . .
>
> (7) Solid waste from the extraction, beneficiation, and processing of ores and minerals (including coal, phosphate rock and overburden from the mining of uranium ore), except as provided by § 266.112 of this chapter for facilities that burn or process hazardous waste. . . .
>
> (8) Cement kiln dust waste, except as provided by § 266.112 of this chapter for facilities that burn or process hazardous waste.

40 C.F.R. § 261.4(b)(4). Section 266.112 provides that "[a] residue derived from the burning or processing of hazardous waste in a boiler or industrial furnace" is not to be classified as nonhazardous under § 261.4(b)(4), (7), or (8) unless certain express conditions are met including that "[t]he owner or operator demonstrates that the hazardous waste does not significantly affect the residue." 40 C.F.R. § 266.112.

ardous wastes co-processed in Bevill units, alleging the EPA has thereby "created a gaping loophole in the land ban program, contrary to Congress' stated intent." Brief for NRDC petitioners at 83. Without reaching the merits of petitioners' challenge, we conclude the provision must be vacated and remanded insofar as it addresses the Bevill Amendment exemption because that subject was not properly before the Agency in this proceeding.

As we observed above, the Administrative Procedure Act requires an agency to provide sufficiently detailed notice of a matter to be regulated to permit meaningful comment. *See supra* Part III(C)(1). The EPA, however, failed to give any notice at all, in the proposed rule or elsewhere, that it intended to address the Bevill unit exemption in this proceeding. Accordingly, we vacate those portions of the rule affecting the exemption and remand the matter for reconsideration *after adequate public notice and opportunity for comment*, whether in this proceeding or elsewhere.[20] *See Shell Oil Co.*, 950 F.2d at 741 (vacating and remanding rules for failure to provide adequate notice).

D. "Grab" Sampling

Finally, petitioner Chemical Waste Management ("CWM") asserts the final rule impermissibly requires compliance and enforcement based on "grab" samples rather than "representative" samples. Preliminarily, we note that a grab sample is a single test

---

[20] The EPA and the industry intervenors agree that this issue is currently the subject of another rulemaking procedure. *See* Brief for Respondent at 123 n.90; Brief for Industry Intervenors at 45-46; *see also* 56 Fed. Reg. 55,160, 55,166 (1991).

sample drawn from a single location, while a "representative" or "composite" sample consists of various samples drawn from different locations so as to yield a representative level for the waste. *See RCRA Sampling Procedures Handbook* 75 (1989), *reprinted in* J.A. at 1057. The final rule provides: "Where performance data exist based on both the analysis of composite samples and the analysis of grab samples, the Agency establishes the treatment standards based on the analysis of grab samples." 55 Fed. Reg. at 22,539. Implementing this preference, the rule amends 40 C.F.R. § 268.41(a) as follows: "Compliance with the allowable waste concentrations established herein] is required *based upon grab samples.*" 55 Fed. Reg. at 22,689 (emphasis added). The rule also provides that "enforcement of the disposal restrictions [be] based on grab samples." *Id.* at 22,539.[21] CWM challenges the new grab sample provisions on the grounds that they (1) are inconsistent with other regulations requiring that disposers use "representative" sampling to test waste levels and (2) are impermissibly vague. We find neither objection meritorious.

First, CWM argues that requiring grab samples, both for compliance and enforcement testing, is arbitrary because inconsistent with other regulations requiring disposal facilities to use *representative* sampling in developing waste analysis plans. *See* 40 C.F.R. §§ 264.13(a)(1) *and* 265.13(a)(1) (each stating: "Before an owner or operator treats, stores, or disposes of any hazardous wastes, or non-hazard-

[21] The rule creates an exception when the standard has been developed based on representative sampling. In that event, "[e]nforcement of that standard thus would also be based on composite samples." 55 Fed. Reg. at 22,539.

ous wastes if applicable under § 264.113(d), he must obtain a detailed chemical and physical analysis of a representative sample of the wastes."). We disagree.

As the EPA points out, it is facially reasonable to test compliance with a given standard under the same sampling method used to develop that standard, as the rule requires. Further, variation between results under the different methods will in large part be resolved through the EPA's adjustment of sampling results to account for the inevitable variability of content. *See* 55 Fed. Reg. at 22,539. To the extent that substantial variation may nevertheless result, an individual disposer can raise as a defense to enforcement the EPA's prior approval of its disposal plan, including the sampling method specified therein.

Finally, we summarily reject CWM's vagueness challenge to the grab sampling requirement. The EPA's published definition aside, *see RCRA Sampling Procedures Handbook* 75, *reprinted in* J.A. at 1057, the expression "grab sample" seems graphically self-defining. In fact, CWM's own discussion of the requirement's alleged arbitrariness demonstrates that it has experienced no difficulty in determining the phrase's meaning. Nevertheless, any vagueness that may inhere in the term can be resolved through explicit drafting of individual disposal permits.

V. Conclusion

For the reasons described above, the petitions for review are granted in part and denied in part.

So ordered.

APPENDIX A

42 U.S.C. § 6924(g)(5):

> not later than the date specified in the schedule published under this subsection, the Administrator shall promulgate final regulations prohibiting one or more methods of land disposal of the hazardous wastes listed on such schedule except for methods of land disposal which the Administrator determines will be protective of human health and the environment for as long as the waste remains hazardous, taking into account the factors referred to in subparagraph (A) through (C) of subsection (d)(1) of this section. For the purposes of this paragraph, a method of land disposal may not be determined to be protective of human health and the environment (except with respect to a hazardous waste which has complied with the pretreatment regulations promulgated under subsection (m) of this section) unless, upon application by an interested person, it has been demonstrated to the Administrator, to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the disposal unit or injection zone for as long as the wastes remain hazardous.

42 U.S.C. § 6924(m):

Treatment standards for waste subject to land disposal prohibition

> (1) Simultaneously with the promulgation of regulations under subsection (d), (e), (f), or (g) of this section prohibiting one or more methods of land disposal of a particular hazardous waste, and as appropriate thereafter, the Ad-

ministrator shall, after notice and an opportunity for hearings and after consultation with appropriate Federal and State agencies, promulgate regulations specifying those levels or methods of treatment, if any, which substantially diminish the toxicity of the waste or substantially reduce the likelihood of migration of hazardous constituents from the waste so that short-term and long-term threats to human health and the environment are minimized.

(2) If such hazardous waste has been treated to the level or by a method specified in regulations promulgated under this subsection, such waste or residue thereof shall not be subject to any prohibition promulgated under subsection (d), (e), (f), or (g) of this section and may be disposed of in a land disposal facility which meets the requirements of this subchapter. Any regulation promulgated under this subsection for a particular hazardous waste shall become effective on the same date as any applicable prohibition promulgated under subsection (d), (e), (f), or (g) of this section.

APPENDIX B

BDAT	Best Demonstrated Available Technologies
CWA	Clean Water Act
CWM	Chemical Waste Management
EDF	Environmental Defense Fund
EP	Extraction Procedure
EPA	Environmental Protection Agency
HWTC	Hazardous Waste Treatment Council
ICR	Ignitable, Corrosive Reactive
mg/l	Milligrams per liter
NPDES	National Pollutant Discharge Elimination System
NRDC	Natural Resources Defense Council
pH	Potential of Hydrogen
POTWs	Publicly Owned Treatment Works
RCRA	Resource Conservation and Recovery Act
SDWA	Safe Drinking Water Act
VOCs	Volatile Organic Compounds

APPENDIX B

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

SEPTEMBER TERM, 1992

No. 90-1230

CHEMICAL WASTE MANAGEMENT, INC.,
Petitioner,

v.

U.S. ENVIRONMENTAL PROTECTION AGENCY,
Respondent.

and Consolidated Cases

[Filed, Nov. 13, 1992]

ORDER

Upon consideration of the Unopposed Joint Motion of Industry Petitioners And Industry Intervenors For Stay of Mandate it is

ORDERED that the motion is granted and the Clerk is directed to withhold issuance of the mandate for a period of ninety days from the date of this order.

Per Curiam
FOR THE COURT:

RON GARVIN,
Clerk

By: /s/ Robert A. Bonner
ROBERT A. BONNER
Deputy Clerk

APPENDIX C

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

SEPTEMBER TERM, 1992

No. 90-1230

CHEMICAL WASTE MANAGEMENT, INC.,
Petitioner,

v.

U.S. ENVIRONMENTAL PROTECTION AGENCY,
Respondent.

and Consolidated Cases

[Filed, Nov. 17, 1992]

ORDER

It is Ordered, *sua sponte*, that the order inadvertently entered herein on November 13, 1992 is vacated. The Clerk shall submit the joint motion for stay of mandate to the court for decision.

Per Curiam
FOR THE COURT:

RON GARVIN,
Clerk

By: /s/ Robert A. Bonner
ROBERT A. BONNER
Deputy Clerk

APPENDIX D

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

SEPTEMBER TERM, 1992

No. 90-1230

CHEMICAL WASTE MANAGEMENT, INC.,
Petitioner,

v.

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY,
Respondent.

and Consolidated Cases

BEFORE: Edwards, Buckley and Henderson, Circuit Judges.

[Filed, Nov. 24, 1992]

ORDER

Upon consideration of the unopposed joint motion of Industry Petitioners and Industry Intervenors for stay of mandate, it is

ORDERED, by the Court, that the motion is granted in part and the Clerk is directed to withhold issuance of the Court's mandate through January 5, 1993.

Per Curiam
FOR THE COURT:

RON GARVIN,
Clerk

By: /s/ Robert A. Bonner
ROBERT A. BONNER
Deputy Clerk

Circuit Judge Edwards would deny the motion for stay of mandate.

APPENDIX E

RELEVANT STATUTORY PROVISIONS

Section 1006 of the Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. § 6905, provides, in pertinent part:

§ 6905. Application of chapter and integration with other Acts

(a) Application of chapter

Nothing in this chapter shall be construed to apply to (or to authorize any State, interstate, or local authority to regulate) any activity or substance which is subject to the Federal Water Pollution Control Act [33 U.S.C.A. § 1251 et seq.], the Safe Drinking Water Act [42 U.S.C.A. § 300f et seq.], the Marine Protection, Research and Sanctuaries Act of 1972 [33 U.S.C.A. § 1401 et seq.], or the Atomic Energy Act of 1954 [42 U.S.C.A. § 2011 et seq.] except to the extent that such application (or regulation) is not inconsistent with the requirements of such Acts.

(b) Integration with other Acts

(1) The Administrator shall integrate all provisions of this chapter for purposes of administration and enforcement and shall avoid duplication, to the maximum extent practicable, with the appropriate provisions of the Clean Air Act [42 U.S.C.A. § 7401 et seq.], the Federal Water Pollution Control Act [33 U.S.C.A. § 1251 et seq.], the Federal Insecticide, Fungicide, and Rodenticide Act [7 U.S.C.A. § 136 et seq.], the Safe Drinking Water Act [42 U.S.C.A. § 300f et seq.], the Marine Protection, Research and Sanctuaries Act of 1972 [33 U.S.C.A. § 1401 et seq.], and such other Acts of Congress as grant regulatory authority to the Administrator. Such integration shall be effected only to the extent that it can be done in

a manner consistent with the goals and policies expressed in this chapter and in the other acts referred to in this subsection.

* * * *

Section 3001 of RCRA, 42 U.S.C. § 6921, provides, in pertinent part:

§ 6921. Identification and listing of hazardous waste

(a) Criteria for identification or listing

Not later than eighteen months after October 21, 1976, the Administrator shall, after notice and opportunity for public hearing, and after consultation with appropriate Federal and State agencies, develop and promulgate criteria for identifying the characteristics of hazardous waste, and for listing hazardous waste, which should be subject to the provisions of this subchapter, taking into account toxicity, persistence, and degradability in nature, potential for accumulation in tissue, and other related factors such as flammability, corrosiveness, and other hazardous characteristics. Such criteria shall be revised from time to time as may be appropriate.

(b) Identification and listing

(1) Not later than eighteen months after October 21, 1976, and after notice and opportunity for public hearing, the Administrator shall promulgate regulations identifying the characteristics of hazardous waste, and listing particular hazardous wastes (within the meaning of section 6903(5) of this title), which shall be subject to the provisions of this subchapter. Such regulations shall be based on the criteria promulgated under subsection (a) of this section and shall be revised from time to time thereafter as may be appropriate. The Administrator, in cooperation with the Agency for Toxic Substances and Disease Registry and the National Toxicology Program, shall also identify or list those hazardous wastes which

shall be subject to the provisions of this subchapter solely because of the presence in such wastes of certain constituents (such as identified carcinogens, mutagens, or teratagens) at levels in excess of levels which endanger human health.

* * * *

Section 3004 of RCRA, 42 U.S.C. § 6924, provides, in pertinent part:

§ 6924. Standards applicable to owners and operators of hazardous waste treatment, storage, and disposal facilities

* * * *

(d) Prohibitions on land disposal of specified wastes

(1) Effective 32 months after November 8, 1984 (except as provided in subsection (f) of this section with respect to underground injection into deep injection wells), the land disposal of the hazardous wastes referred to in paragraph (2) is prohibited unless the Administrator determines the prohibition on one or more methods of land disposal of such waste is not required in order to protect human health and the environment for as long as the waste remains hazardous, taking into account—

(A) the long-term uncertainties associated with land disposal,

(B) the goal of managing hazardous waste in an appropriate manner in the first instance, and

(C) the persistence, toxicity, mobility, and propensity to bioaccumulate of such hazardous wastes and their hazardous constituents.

For the purposes of this paragraph, a method of land disposal may not be determined to be protective of human health and the environment for a hazardous waste referred to in paragraph (2) (other than a hazardous

waste which has complied with the petreatment regulations promulgated under subsection (m) of this section), unless, upon application by an interested person, it has been demonstrated to the Administrator, to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the disposal unit or injection zone for as long as the wastes remain hazardous.

(2) Paragraph (1) applies to the following hazardous wastes listed or identified under section 6921 of this title:

(A) Liquid hazardous wastes, including free liquids associated with any solid or sludge, containing free cyanides at concentrations greater than or equal to 1,000 mg/l.

(B) Liquid hazardous wastes, including free liquids associated with any solid or sludge, containing the following metals (or elements) or compounds of these metals (or elements) at concentrations greater than or equal to those specified below:

(i) arsenic and/or compounds (as As) 500 mg/l;

(ii) cadmium and/or compounds (as Cd) 100 mg/l;

(iii) chromium (VI and/or compounds (as Cr VI)) 500 mg/l;

(iv) lead and/or compounds (as Pb) 500 mg/l;

(v) mercury and/or compounds (as Hg) 20 mg/l;

(vi) nickel and/or compounds (as Ni) 134 mg/l;

(vii) selenium and/or compounds (as Se) 100 mg/l; and

(viii) thallium and/or compounds (as Th) 130 mg/l.

(C) Liquid hazardous waste having a pH less than or equal to two (2.0).

(D) Liquid hazardous wastes containing polychlorinated biphenyls at concentrations greater than or equal to 50 ppm.

(E) Hazardous wastes containing halogenated organic compounds in total concentration greater than or equal to 1,000 mg/kg.

When necessary to protect human health and the environment, the Administrator shall substitute more stringent concentration levels than the levels specified in subparagraphs (A) through (E).

(3) During the period ending forty-eight months after November 8, 1984, this subsection shall not apply to any disposal of contaminated soil or debris resulting from a response action taken under section 9604 or 9606 of this title or a corrective action required under this subchapter.

(e) Solvents and dioxins

(1) Effective twenty-four months after November 8, 1984 (except as provided in subsection (f) of this section with respect to underground injection into deep injection wells), the land disposal of the hazardous wastes referred to in paragraph (2) is prohibited unless the Administrator determines the prohibition of one or more methods of land disposal of such waste is not required in order to protect human health and the environment for as long as the waste remains hazardous, taking into account the factors referred to in subparagraphs (A) through (C) of subsection (d)(1) of this section. For the purposes of this paragraph, a method of land disposal may not be determined to be protective of human health and the environment for a hazardous waste referred to in paragraph (2) (other than a hazardous waste which has com-

plied with the pre-treatment regulations promulgated under subsection (m) of this section), unless upon application by an interested person it has been demonstrated to the Administrator, to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the disposal unit or injection zone for as long as the wastes remain hazardous.

(2) The hazardous wastes to which the prohibition under paragraph (1) applies are as follows—

(A) dioxin-containing hazardous wastes numbered F020, F021, F022, and F023 (as referred to in the proposed rule published by the Administrator in the Federal Register for April 4, 1983), and

(B) those hazardous wastes numbered F001, F002, F003, F004, and F005 in regulations promulgated by the Administrator under section 3001 (40 C.F.R. 261.31 (July 1, 1983)), as those regulations are in effect on July 1, 1983.

(3) During the period ending forty-eight months after November 8, 1984, this subsection shall not apply to any disposal of contaminated soil or debris resulting from a response action taken under section 9604 or 9606 of this title or a corrective action required under this subchapter.

* * * *

(g) Additional land disposal prohibition determination

(1) Not later than twenty-four months after November 8, 1984, the Administrator shall submit a schedule to Congress for—

(A) reviewing all hazardous wastes listed (as of November 8, 1984) under section 6921 of this title other than those wastes which are referred to in subsection (d) or (e) of this section; and

(B) taking action under paragraph (5) of this subsection with respect to each such hazardous waste.

(2) The Administrator shall base the schedule on a ranking of such listed wastes considering their intrinsic hazard and their volume such that decisions regarding the land disposal of high volume hazardous wastes with high intrinsic hazard shall, to the maximum extent possible, be made by the date forty-five months after November 8, 1984. Decisions regarding low volume hazardous wastes with lower intrinsic hazard shall be made by the date sixty-six months after November 8, 1984.

(3) The preparation and submission of the schedule under this subsection shall not be subject to the Paperwork Reduction Act of 1980. No hearing on the record shall be required for purposes of preparation or submission of the schedule. The schedule shall not be subject to judicial review.

(4) The schedule under this subsection shall require that the Administrator shall promulgate regulations in accordance with paragraph (5) or make a determination under paragraph (5)—

(A) for at least one-third of all hazardous wastes referred to in paragraph (1) by the date forty-five months after November 8, 1984;

(B) for at least two-thirds of all such listed wastes by the date fifty-five months after November 8, 1984; and

(C) for all such listed wastes and for all hazardous wastes identified under section 6921 of this title by the date sixty-six months after November 8, 1984.

In the case of any hazardous waste identified or listed under section 6921 of this title after November 8, 1984, the Administrator shall determine whether such waste shall be prohibited from one or more methods of land disposal in accordance with paragraph (5) within six months after the date of such identification or listing.

(5) Not later than the date specified in the schedule published under this subsection, the Administrator shall promulgate final regulations prohibiting one or more methods of land disposal of the hazardous wastes listed on such schedule except for methods of land disposal which the Administrator determines will be protective of human health and the environment for as long as the waste remains hazardous, taking into account the factors referred to in subparagraphs (A) through (C) of subsection (d)(1) of this section. For the purposes of this paragraph, a method of land disposal may not be determined to be protective of human health and the environment (except with respect to a hazardous waste which has complied with the pretreatment regulations promulgated under subsection (m) of this section) unless, upon application by an interested person, it has been demonstrated to the Administrator, to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the disposal unit or injection zone for as long as the wastes remain hazardous.

(6)(A) If the Administrator fails (by the date forty-five months after November 8, 1984) to promulgate regulations or make a determination under paragraph (5) for any hazardous waste which is included in the first one-third of the schedule published under this subsection, such hazardous waste may be disposed of in a landfill or surface impoundment only if—

(i) such facility is in compliance with the requirements of subsection (*o*) of this section which are applicable to new facilities (relating to minimum technological requirements); and

(ii) prior to such disposal, the generator has certified to the Administrator that such generator has investigated the availability of treatment capacity and has determined that the use of such landfill or surface impoundment is the only practical alternative to treatment currently available to the generator.

The prohibition contained in this subparagraph shall continue to apply until the Administrator promulgates regulations or makes a determination under paragraph (5) for the waste concerned.

(B) If the Administrator fails (by the date 55 months after November 8, 1984) to promulgate regulations or make a determination under paragraph (5) for any hazardous waste which is included in the first two-thirds of the schedule published under this subsection, such hazardous waste may be disposed of in a landfill or surface impoundment only if—

(i) such facilities in compliance with the requirements of subsection (*o*) of this section which are applicable to new facilities (relating to minimum technological requirements); and

(ii) prior to such disposal, the generator has certified to the Administrator that such generator has investigated the availability of treatment capacity and has determined that the use of such landfill or surface impoundment is the only practical alternative to treatment currently available to the generator.

The prohibition contained in this subparagraph shall continue to apply until the Administrator promulgates regulations or makes a determination under paragraph (5) for the waste concerned.

(C) If the Administrator fails to promulgate regulations, or make a determination under paragraph (5) for any hazardous waste referred to in paragraph (1) within 66 months after November 8, 1984, such hazardous waste shall be prohibited from land disposal.

* * * *

(m) Treatment standards for waste subject to land disposal prohibition

(1) Simultaneously with the promulgation of regulations under subsection (d), (e), (f), or (g) of this section prohibiting one or more methods of land disposal of a particular hazardous waste, and as appropriate thereafter, the Administrator shall, after notice and an opportunity for hearings and after consultation with appropriate Federal and State agencies, promulgate regulations specifying those levels or methods of treatment, if any, which substantially diminish the toxicity of the waste or substantially reduce the likelihood of migration of hazardous constituents from the waste so that short-term and long-term threats to human health and the environment are minimized.

(2) If such hazardous waste has been treated to the level or by a method specified in regulations promulgated under this subsection, such waste or residue thereof shall not be subject to any prohibition promulgated under subsection (d), (e), (f), or (g) of this section and may be disposed of in a land disposal facility which meets the requirements of this subchapter. Any regulation promulgated under this subsection for a particular hazardous waste shall become effective on the same date as any applicable prohibition promulgated under subsection (d), (e), (f), or (g) of this section.

* * * *

APPENDIX F

RELEVANT EXCERPTS FROM EPA'S FINAL RULE IN THE "THIRD THIRD" RULEMAKING

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 148, 261, 262, 264, 265, 268, 270, 271, and 302

[EPA/OSW-FR-90-010; SWH-FRL-3751-1]

RIN 2050-AC73

Land Disposal Restrictions for Third Third Scheduled Wastes

AGENCY: Environmental Protection Agency [EPA].

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency (EPA) today is promulgating regulations implementing the last of five Congressionally mandated prohibitions on land disposal of hazardous wastes (the third one-third of the schedule of restricted hazardous wastes, hereafter referred to as the Third Third). This action is taken in response to amendments to the Resource Conservation and Recovery Act (RCRA), enacted in the Hazardous and Solid Waste Amendments (HSWA) of 1984. When fully effective in May 1992, this rule, combined with the previous rulemakings, is expected to require treatment of a total of seven million tons of hazardous waste managed in RCRA-regulated facilities.

EFFECTIVE DATE: The final rule is effective on May 8, 1990.

* * * *

SUPPLEMENTARY INFORMATION:

Expanded Summary

* * * *

In promulgating treatment standards for characteristic wastes, EPA has evaluated the applicability of certain

provisions of the land disposal restrictions' framework with respect to characteristic wastes including wastes regulated under the National Pollutant Discharge Elimination System (NPDES) program, sections 307(b) and 402 of the Clean Water Act (CWA) and the Safe Drinking Water Act (SDWA) programs regulating deep well injection to ensure successful integration of these programs with the regulations being promulgated today. Specifically, the Agency considered the appropriateness of the dilution prohibition for each of the characteristic wastestreams, and the applicability of treatment standards expressed as specified methods.

In general, the Agency believes that the mixing of waste streams to eliminate certain characteristics is appropriate and should be permissible for certain characteristic waste streams (*e.g.*, most wastes that are purely corrosive). Furthermore, EPA believes that the dilution prohibition should not apply to characteristic wastes that are managed in treatment trains regulated under the Pretreatment and National Pollutant Discharge Elimination System (NPDES) programs under sections 307(b) and 402 of the CWA or in Class I underground injection well systems regulated under the Safe Drinking Water Act (SDWA). The Agency believes that the treatment requirements and associated dilution rules under the CWA are generally consistent with the dilution rules under RCRA, and that the Agency should rely on the existing CWA provisions. Similarly, EPA has established a regulatory program under the SDWA to prevent underground injection which endangers drinking water sources. Class I deep wells inject below the lowermost geologic formation containing an underground source of drinking water, and are subject to minimum location, construction, and operation requirements. The Agency believes that application of dilution rules to these wastes would not further minimize threats to human health and the environment, and that disposal of these wastes by

underground injection at the characteristic levels is as sound as the treatment option. However, hazardous effluent, sludges, or other residues generated from these treatment trains, or pretreatment from CWA or SDWA systems, that are subsequently land disposed are subject to the land disposal restriction provisions.

* * * *

5. Characteristic Wastes Regulated Under the Safe Drinking Water Act (SDWA) and the Clean Water Act (CWA) and RCRA

Today's final rule limits the applicability of certain provisions of the land disposal restrictions' framework to characteristic wastes subject to regulation under the Clean Water Act (i.e., discharges permitted under the NPDES or POTW pretreatment regulations), and to characteristic wastes managed in systems which discharge to Class I underground injection wells subject to regulation under the Safe Drinking Water Act. First, the LDR dilution prohibition does not apply to characteristic wastes managed in NPDES or pretreatment systems and subsequently discharged under CWA regulations, *unless* a method of treatment is specified. Second, the LDR dilution prohibition does not apply to wastes disposed of in Class I underground injection wells. Third, where a specified technology is the treatment standard for a characteristic waste, the method need not be utilized if the waste is disposed of in a Class I injection well. Characteristic wastes that are exempt from the dilution prohibition and which are managed and disposed of on-site, are not subject to the full § 268.7 requirements for waste analysis and recordkeeping. The Agency believes that this action is necessary to successfully integrate RCRA and SDWA programs; the underlying rationale for these decisions is provided in section III.D of today's preamble.

* * * *

D. The Dilution Prohibition as it Applies to Centralized Treatment

The existing rules on dilution and EPA's interpretive statements regarding those rules indicate that the dilution prohibition has a two-fold objective: (1) To ensure that prohibited wastes are actually treated; and (2) to ensure that prohibited wastes are treated by methods that are appropriate for that type of waste. EPA has acknowledged that prohibited wastes which are aggregated are not diluted impermissibly if they are treated legitimately in centralized treatment systems, irrespective of the dilution inherent in such a system. Thus, if "dilution" is a legitimate type of treatment, or a necessary pretreatment step in a legitimate treatment system, such dilution is permissible. Conversely, prohibited wastes that are "treated" by inappropriate methods, or sent to treatment systems that do not treat the wastes, are diluted impermissibly.

In applying these principles to characteristic wastes, EPA encountered two major difficulties: First, the interface with regulatory systems established pursuant to the Clean Water Act and Safe Drinking Water Act, and second, difficulties in being able to quantify the proposal in a meaningful way. Given these problems and complications, EPA has decided that the most constructive course is to provide additional interpretive guidance on the existing dilution prohibition contained in § 268.3, and to explain more fully how those rules would apply in specific situations.

In all cases, the Agency has determined that for nontoxic hazardous characteristic wastes, it should not matter how the characteristic property is removed so long as it is removed. Thus, dilution is an acceptable treatment method for such wastes. In most cases, EPA has determined also not to apply a dilution prohibition to characteristic wastes that are managed in treatment systems

regulated under the Clean Water Act or the Safe Drinking Water Act. However for aggregation of listed wastestreams or toxic characteristic wastestreams not included above, the Agency is able to provide limited additional guidance today on the issue of when centralized treatment methods involving dilution are permissible. As a general rule, if the wastes are all legitimately amenable to the same type of treatment, and this method of treatmetn is utilized for the aggregated wastes, the aggregation step does not constitute impermissible dilution.

* * * *

D. Applicability of Land Disposal Restrictions

1. Introduction

* * * *

Another critical issue is whether or not to prohibit dilution of characteristic wastes as part of the LDR program. As discussed below, in some circumstances a dilution prohibition is important to ensure actual treatment of the waste. EPA is applying a dilution prohibition to wastes which exhibit a characteristic at the point of generation, with two exceptions. The first exception to the dilution prohibition is for characteristic wastes treated for purposes of CWA requirements. CWA requirements, including CWA dilution rules, serve goals similar to the LDR dilution rules. Relying on the CWA dilution rules will generally accomplish the goals of the LDR program without creating potential inconsistencies or duplication in EPA's regulations. A second general exception to the LDR prohibitions is for characteristic wastes that are subsequently diluted and disposed in injection wells authorized under the SDWA. This exclusion is based, in part, on EPA's evaluation that the disposal of dilute, nonhazardous wastes into appropriately confined injection zones would not constitute a threat to human health and the environment. EPA's decision also is based on the unnecessary regulatory burden that would ensue from

application of the LDR prohibitions on the SDWA program regulating nonhazardous well disposal. A more detailed discussion of EPA's rationale and decision rules follow.

2. Legal Authority over Characteristic Wastes

a. *Introduction.*

* * * *

EPA's proposed approach for both treatment standards and applying a dilution prohibition for characteristic wastes received many comments. Most commenters expressed concern about the regulatory impact of these rules on land disposal facilities regulated under RCRA subtitle D. There was particular concern over the impact of the proposed rules on existing wastewater treatment trains regulated under the Pretreatment and National Pollutant Discharge Elimination System (NPDES) programs, pursuant to sections 307(b) and 402 of the CWA, which use surface impoundments not regulated under RCRA subtitle C. In addition, there were many comments concerning the impact of the proposed rules on the SDWA program for nonhazardous injection wells.

As discussed below, Congress has given apparently conflicting guidance on how the Agency should address land disposal prohibitions for characteristic wates. EPA believes it has authority to reconcile these potential conflicts and to harmonize statutory provisions to forge a coherent regulatory system. (See RCRA Section 1006(b)—"The Administrator shall integrate all provisions of (RCRA) for the purposes of administration and enforcement and shall avoid duplication to the maximum extent practicable, with the appropriate provisions of the (CWA and SDWA)".) Within this authority EPA seeks to further the policy of section 3004(m) to treat hazardous waste prior to land disposal. However, EPA may also take steps to address problems that could arise from integration of LDR prohibitions in the context of the RCRA

Subtitle D, CWA and SDWA programs. A more detailed discussion of the legal authority for this approach is provided below.

b. *General Standard for Agency Construction of Statutes.* Chevron U.S.A. Inc. v. NRDC, 467 U.S. 837 (1984) sets forth a two-step process for determining whether to sustain an agency's statutory interpretations. First, a court determines whether Congress has spoken directly to the precise question at issue. If the intent of Congress is clear, then the agency construction must be consistent with the Congressional directive. If, however, the statute is silent or ambiguous with respect to the specific issue, the agency choice must be based on a permissible construction of the statute. The construction may reflect a reasonable accommodation of policies that are committed to the agency by statute.

For the reasons stated below, EPA believes that Congress has not spoken to the precise question of the point at which LDR prohibitions apply and, thus, the Agency may develop a reasonable interpretation of the statute considering the goals and objectives of the LDR program and RCRA in general.

c. *Scope of Agency Authority for Treatment Requirements.* Several industry commenters argue that EPA must determine the applicability of LDR requirements at the point of land disposal based on the language of RCRA section 3004(g), which authorizes EPA to prohibit "the land disposal of hazardous waste." Commenters argue that this language indicates a Congressional decision to apply LDR requirements only to waste which is listed or exhibits a characteristic at the point of land disposal.

The Agency agrees that this is one permissible construction of the language in section 3004(g). Clearly a waste must be "hazardous" to fall under the mandate of 3004(g). EPA could assess whether or not a waste is hazardous at the point of land disposal to determine whether the prohibition in 3004(g) applies. The Agency,

however, does not believe this is the only permissible construction. Although section 3004(g) clearly authorizes EPA to prohibit the land disposal of characteristic waste, it does not specify that the status of the waste for purposes of the prohibition can only be evaluated at the point of land disposal. Rather, the evaluation of whether a hazardous waste is subject to the prohibition can apply at the point of generation or at the point of disposal (and possibly at some other point or combination of the two). Indeed, section 3004(g)(5) requires EPA to consider "* * * the goal of managing hazardous waste in an appropriate manner *in the first instance*," (emphasis added) when determining the scope of the land disposal prohibitions. See reference to section 3004(d)(1)(B) in section 3004(g)(5). This language can be read to refer to a point of generation approach. Moreover, the statutory structure provides for treatment of hazardous waste under section 3004(m) treatment standards *before* land disposal and not necessarily at the physical point of land disposal. Commenters further argue that the Congressional policy is to limit the scope of the LDR provisions to facilities currently regulated under subtitle C of RCRA.

As discussed below, the Agency has concluded that applying LDR requirements at the point of generation is not only a permissible construction of the statute, but one which may better serve the goals and objectives of the LDR program.[6] Specifically, EPA believes that applying

---

[6] The Agency has previously adopted the point of generation approach with respect to identification of waste subject to the California list prohibitions set out in RCRA section 3004(d)(1) and (2), 52 FR 25760 (July 8, 1987). Like characteristic wastes, California list wastes must contain constituents or exhibit a property above a certain level. Moreover, as a general matter, to ensure the proper management of waste in the first instance, EPA has required application of several 40 CFR part 268 requirements at the point of generation. See § 268.30(a)(3) and 52 FR 21012 (June 4, 1967) (initial generator must determine whether solvent wastes are prohibited); 53 FR 31146-47 (August 17, 1988) and 54 FR 26605

LDR requirements at the point of generation may, in some cases, be necessary to effectuate the requirement that the Agency set treatment standards or methods for characteristic wastes under section 3004(m). As the Agency noted in the proposal at 54 FR 48490, the point of disposal approach could undermine the Congressional goals of the land disposal restrictions in critical ways when applied to characteristic wastes.

First, the Agency would not effectively be able to set a particular method of treatment or limit dilution for a characteristic waste. A point of disposal approach might permit dilution of characteristic wastes, since waste diluted below a characteristic level prior to land disposal would not be regulated by LDR provisions. Such dilution could be in lieu of treatment or a specified method and would not fulfill the goals of section 3004(m). In many cases, dilution simply increases the volume of a waste without reducing or immobilizing the mass of hazardous constitutents in the waste.

Second, the point of disposal approach could be construed to limit treatment standards both in terms of treatment levels and the range of hazardous constituents affected by the treatment standard. For characteristic wastes, a point of disposal approach would, in effect, preclude a requirement to treat below the characteristic level. In some cases, characteristic levels are not levels below which there may be no significant risks to human health and the environment. Rather, the EP (and TC) limits are levels at which wastes clearly are hazardous. 45 FR 33084 (May 19, 1980); 51 FR 21648 (June 13, 1986); 55 FR 11798 (March 29, 1990).[7]

(June 23, 1989) (waste code carry-through principle applies at the point of generation and determines both the prohibitions and the treatment standard for listed wastes). All land disposal restriction tracking requirements likewise attach at the point of generation (268.7(a) and 54 FR 36968 (Sept. 6, 1989).

[7] In *Hazardous Waste Treatment Council* v. *EPA* (HWTC III), 886 F.2d 355 (D.C. Cir. 1989) the court noted that it would be

Characteristic wastes also may exhibit both a specific characteristic and contain significant concentrations of other hazardous constituents. (This is true, for example, of the high TOC ignitable wastes and reactive cyanide wastes regulated under today's rule.) Simply treating the one specific characteristic which is an indicator that the waste is a hazardous waste would not necessarily fulfill the goal of section 3004(m), *i.e.*, to "substantially diminish the toxicity of the waste or substantially reduce the likelihood of migration of *hazardous constituents* from the waste so that short-term and long-term threats to human health and the environment are minimized" (emphasis added). The statutory focus on hazardous constitutents beyond the specific characteristic constituent is also enunciated in sections 3004(d)-(g) of RCRA. These provisions authorize EPA to take into account "* * * the persistence, toxicity, mobility, and propensity to bioaccumulate of such hazardous wastes *and their hazardous constituents*" in establishing hazardous waste prohibitions. Section 3004(d)(1)(C) (emphasis added). Thus, EPA believes it has statutory authority to take into account all aspects of a waste stream in determining appropriate treatment and is not limited to considering merely one specific "characteristic" that indicates that the waste is hazardous in the first instance.

---

inappropriate under section 3004(m) to require treatment below levels which there are no longer threats to human health and the environment. *Id.* at 363. However, the court noted that the inquiry under section 3004(m) concerning the extent of treatment is different than levels established for other regulatory purposes, and specifically noted that EPA need not construe characteristic levels as levels below which no further minimization of threats can occur. *Id.* at 362. The Agency has recently discussed its rationale for a technology-based approach to treatment standards under section 3004(m) which does not cap the treatment requirements at delisting levels. (See 55 FR 6640), (February 26, 1990). EPA recognizes that *HWTC III* is not dispositive on the issue we address today whether characteristic levels at the point of disposal serve as a jurisdictional bar to application of section 3004(m) treatment standards.

EPA also has general authority under RCRA section 3004(a)(3) to establish different criteria for determining when wastes will enter and exit the hazardous waste management system—*i.e.*, when they will initially be designated as hazardous waste and when they no longer require RCRA subtitle C management controls. For example, the clean-closure standards for regulated units that hold characteristic wastes require removal of hazardous constituents even if the waste no longer exhibits a hazardous characteristic. See 53 FR 8705 (March 19, 1987). EPA also has previously promulgated regulations requiring that incinerators treating hazardous waste be operated to a certain efficiency even if a characteristic waste in the waste feed ceases to exhibit a characteristic somewhere in the combustion process.

EPA believes that under the first test in *Chevron*, Congress has neither mandated nor precluded a point of generation approach. In this case the "meaning or reach of a statute involve[s] reconciling conflicting policies." *Chevron*, 467 U.S. at 846 (citation omitted). Moreover, "a full understanding of the force of the statutory policy in the given situation has depended upon more than ordinary knowledge respecting the subject matters subjected to agency regulations." *Id.* Accordingly, EPA should make choices which represent "a reasonable accommodation of conflicting policies that were committed to the agency's care by statute." *Id.*

In this regard, section 1006(b) of RCRA provides EPA authority to integrate provisions of RCRA and other acts it administers, including the CWA and SDWA, for purposes of administration and enforcement. Such integration must be consistent with the goals and policies of these acts. Under this framework, EPA can analyze potential overlaps between regulatory programs in its decision-making. Where the goals are consistent, and uniform administration or enforcement is preferable, EPA may rely on one regulatory framework instead of

applying potentially duplicative or inconsistent regulations. Accordingly, the Agency believes that it can harmonize potentially conflicting policies by considering both the benefits of a given approach and any regulatory problems (including regulatory overlap) that would be engendered by the approach. The balancing may thus result in different application of LDR requirements for certain classes of facilities.

d. *Agency Framework for Addressing Treatment Standards for Characteristic Wastes and Integrating them With Other Regulatory Programs.* The Agency believes that it has authority to apply LDR requirements at the point of waste generation for characteristic wastes and that such an approach will generally better achieve the goals of the LDR program. Specifically, EPA believes it has the authority to set treatment levels below the characteristic levels, to specify methods of treatment, and to prohibit dilution for characteristic wastes where necessary and appropriate to further the goals of the statute. EPA recognizes, however, that there are many far-reaching policy considerations respecting the actual implementation of this approach. For example, a point of generation approach could apply to management of waste prior to RCRA subtitle D land disposal.[8]

LDR standards which require waste to be treated to below characteristic levels would apply to wastes currently destined for RCRA subtitle D facilities. Application of the LDR provisions would be a very significant change in the regulatory scheme for these facilities, and could cause major administration and enforcement problems for both EPA and these facilities. For example, EPA currently has no authority to enforce subtitle D criteria against subtitle D facilities, and, hence has no

---

[8] Waste disposed into such units would need to meet the treatment requirements unless disposal is (1) into a "no migration" unit approved under 40 CFR part 148 or 268, or (2) into a surface impoundment which meets the requirements of RCRA section 3005(j)(11).

enforcement program for these facilities. In order to ensure that these facilities met the subtitle C requirements, the Agency would have to implement an enforcement scheme that addressed thousands of subtitle D facilities. In addition, owners and operators of subtitle D facilities would need to meet complex LDR tracking requirements. Many may decide not to accept partially treated characteristic wastes rather than comply, thus, diverting potentially large volumes of non-hazardous waste to subtitle C facilities and potentially aggravating capacity problems at subtitle C facilities.[9] As noted in the proposal at 54 FR 48491, some of these problems may be addressed by future regulatory revisions. EPA will continue to evaluate this issue as it addresses standards for the wastes identified by the new Toxicity Characteristic (TC).

In addition, many of these potentially affected subtitle D units contain wastes that are regulated, in part, under the National Pollutant Discharge Elimination System (NPDES) and pretreatment programs under sections 301, 304, 307, and 402 of the CWA, and the Underground Injection Control (UIC) program under the SDWA. Requiring treatment below characteristic levels or imposing a dilution prohibition would require significant changes to the operations of these facilities and create problems of regulatory integration.

This is not to say that the section 3004(m) objectives carry little weight with respect to characteristic wastes. On the contrary, particularly with respect to toxic wastes, these policies are of critical importance. Moreover, many of these potential implementational problems may be addressed by future rulemakings.

Section 1006(b) of RCRA requires the Agency to integrate "for the purposes of administration and enforce-

[9] As noted below, EPA has provided a regulatory structure to enforce dilution rules which does not impact subtitle D facilities.

ment" RCRA subtitle C with the goals and policies of other portions of RCRA, as well as other statutes administered by EPA. In light of this requirement and the absence of any clear Congressional directive to apply LDR requirements directly to subtitle D facilities, the Agency must ask itself whether the benefits of treating below characteristic levels warrant the serious implementation problems such as those discussed above. This is particularly true where the administrative record contains inadequate data to set levels below the characteristic level for the many waste matrices represented by a single characteristic waste code. However, where the data is adequate, EPA believes it can successfully implement treatment requirements beyond removal of the characteristic, on a case-by-case basis, without significant disruptions to other regulatory programs to further the goals of section 3004(m) by requiring treatment beyond removal of the characteristic. EPA is prepared to reevaluate these issues in future rulemakings based on further information and experience with implementing the LDR program.

The extent to which the treatment goals of section 3004(m) are furthered by treatment beyond removal of the specific characteristic and by application of LDR dilution rules is discussed below for certain classes of wastes and certain classes of waste management practices. EPA also will consider section 3004(g) and the Congressional directive under section 1000(b) of RCRA to integrate regulatory programs. Accordingly, EPA's approach is to balance both the extent of additional treatment provided from treatment beyond removal of a characteristic and regulatory integration concerns for LDR standards relating to characteristic wastes.[10]

---

[10] In determining that some balancing of competing section 3004(m) and 1006(b)/3004(g) interests is necessary in establishing prohibitions for characteristic wastes, the Agency is further determining that the framework outlined in the court's opinion in *HWTC*

Below, EPA addresses three separate LDR requirements: treatment levels,, methods of treatment, and dilution prohibitions. In addition, EPA discusses exclusions for some of these requirements for certain practices regulated under the CWA and SDWA.

* * * *

6. Exemption to Dilution Prohibition for Characteristic Wastes Treated for Purposes of Certain CWA Programs

a. *Introduction.* For listed wastes, there are generally no overlapping CWA and RCRA treatment requirements for wastewater ultimately discharged to a water of the United States or POTW.[13] (Of course, sludges or other

---

III, 886 F.2d 355 (D.C. Cir. 1989) and the Agency's response to that opinion (55 FR 6640 (Feb. 26, 1990)) is not dispositive in the differing context of characteristic wastes. Both the opinion and the Agency's response dealt with situations where listed hazardous wastes were being disposed so there were no competing interests to balance against the Section 3004(m) mandate. Consequently, the Agency determined that until it could develop *de minimis* concentration levels which establish when threats from prohibited wastes are minimized, it would opt for the certainty of technology-based treatment standards to remove as much of the uncertainty associated with land disposal of hazardous wastes. 55 FR at 6642. Characteristic wastes present a different situation, however, due to the potential disruption of other programs, see supra, and possible minimal benefits to treatment below the characteristic levels in some cases.

[13] Wastewater which contains a listed hazardous waste and is ultimately discharged to waters of the United States under an NPDES permit pursuant to section 402 of the CWA or to a Publicly Owned Treatment Works (POTW) pursuant to section 307 of the CWA is not ordinarily subject to the land disposal prohibitions for several reasons. First, in many situations, the wastewater is managed in tanks prior to discharge and, thus, there is no placement in a land disposal unit. Second, even where a surface impoundment is used to treat hazardous waste prior to discharge such surface impoundments may satisfy the requirements of section 3005(j)(11) of RCRA in lieu of meeting section 3004(m) treatment standards. See § 268.4. Section 3005(j)(11) requires an impoundment to meet

residues from NPDES treatment trains which are subsequently land disposed are subject to the land disposal restriction provisions.) Some of these facilities, however, generate waste which exhibits a hazardous characteristic but after mixing with other waste streams ceases to exhibit that characteristic prior to placement in a subtitle D surface impoundment which is part of the wastewater treatment train. These surface impoundments are land disposal units for purposes of LDR prohibitions. The practice of mixing could thus trigger LDR dilution rules. EPA received many comments that the proposed RCRA dilution prohibition for wastewater going into these impoundments could undermine the ability of these operators to use nonhazardous waste surface impoundments as part of their NPDES treatment train.[14] This impact would occur despite the fact that further treatment would occur in the impoundment to remove constituents from the wastewater prior to discharge to waters of the United States or to a POTW. These commenters further argued that application of such RCRA rules to wastewaters already required to be treated under CWA requirements would be unduly confusing and duplicative.

b. *Environmental Considerations.* As discussed below, the NPDES program has a series of technology-based requirements for the treatment of wastewater prior to discharge to waters of the United States. See 33 U.S.C. 1314 and 40 CFR Parts 400-471. These requirements provide for treatment of wastewaters prior to discharge. Indeed, many of the LDR treatment standards are based on data used to set the CWA standards. Thus, EPA

---

certain design requirements set out in section 3004(o)(1) of RCRA and be dredged annually to remove residues.

[14] As noted above, applying LDR requirements at a point of generation would require a facility either to (1) treat the waste prior to placement in the surface impoundment (2) obtain a "no migration variance, (3) comply with section 3005(i)(11); or (4) install tank treatment instead of using surface impoundments.

believes the overlap of an LDR dilution prohibition where an NPDES treatment train includes a nonhazardous treatment impoundment would not substantially further the treatment goals of the land disposal restrictions.

c. *Regulatory Problems.* The regulatory overlap of similar but not identical dilution rules would create significant regulatory disruption. Section 1006(b) of RCRA provides EPA the authority to consider these integration problems and set requirements that are consistent with the goals and policies of the CWA and RCRA. Many of the effluent limitations guidelines and standards, including all of those reflecting mass-based limits and standards, have factored in controls on dilution. In addition, NPDES permit writers can set requirements which reflect the nature of the treatment process, including best management practices, mass limitations in lieu of concentration based limitations, adjustments to reflect pollutants in intake water, and conditions on internal waste streams. 40 CRF 122.44(k); 122.45(f), (g) and (h). Indirect dischargers are also subject to specific CWA dilution rules in both the general pretreatment rules and the Combined Wastestream Formula (as well as though many of the categorical standards). 40 CFR 403.6(d) and (e).

In this case, the general treatment requirements and associated dilution rules under the CWA are generally consistent with the similar requirements under RCRA. Relying on the existing CWA provisions is, thus, consistent with the goals of both Acts and avoids unnecessary duplication and potentially conflicting requirements.

EPA also believes, however, that where the Agency has established a method of treatment, and where application of that method is consistent with and promotes the objectives of the CWA program, then the dilution prohibition should apply to make it impermissible to dilute these wastes to avoid treating them by the designated treat-

ment method. This group includes the ignitable nonwastewaters containing greater than 10% total organic carbon (TOC). The treatment methods for these wastes is incineration or, in the case of the ignitable waste, fuel substitution. Prohibiting dilution to require the specified method is entirely consistent with the regulatory framework for the CWA programs. The high TOC ignitable wastes, in particular, are inappropriate for wastewater treatment systems as the high TOC levels would overwhelm the capacity for most biological treatment systems. In addition, EPA believes there are few remaining pesticide wastes designated as D012-17. Thus, this requirement should have minimum impact on CWA systems. Accordingly, the exemption from the dilution prohibition for CWA systems is not an exemption for the requirement to follow specific methods of treatment.

7. Exemption from LDR Prohibitions for Characteristic Wastes Disposed Below Characteristic Levels in Wells Regulated under the SDWA

a. *Introduction.* EPA has set out a regulatory program under sections 1421, 1422, and 1425 of the SDWA which contains "minimum requirements for effective programs to prevent underground injection which endangers drinking water sources." 42 U.S.C. 300h(b)(1). Class I deep wells inject below the lowermost geologic formation containing an underground source of drinking water (USDW). 40 CFR 144.6(a).[15] These wells are subject to location, construction, and operating requirements set out at 40 CFR parts 144 and 146. In addition, EPA may authorize states to administer the UIC program. 40 CFR parts 145 and 147. There are approximately 400 such wells currently injecting only nonhazardous waste.

---

[15] A USDW is defined to include aquifers containing waters with up to 10,000 milligrams per liter ("mg/l") of total dissolved solids ("TDS"). 40 CFR 144.3.

The large facilities that have these wells often mix waste streams and through this mixing remove the characteristic prior to disposal. A dilution prohibition would require restructuring of these facilities. Alternatively, the facilities could apply for a "no migration" variance under 40 CFR part 148.

b. *Environmental Considerations.* LDR dilution rules for wastes currently disposed of below the characteristic levels in UIC wells would be limited to toxic wastes. As discussed below, EPA is generally providing that treatment of ignitable, corrosive or reactive wastewater may be accomplished simply by removing the characteristic. This could be accomplished by mixing. (There are a few exceptions discussed in the specific discussion on treatment standards.) These general standards are based on EPA's technical evaluation of appropriate treatment for purposes of 3004(m) regardless of the disposal scenario. Thus, for these particular characteristic wastes, the application of the part 268 dilution prohibition to operators of nonhazardous waste injection wells would not require any additional treatment beyond what is already occurring. Moreover, there is a very limited amount of the pesticide wastes D012-17, and EPA is unaware of deep-well injection practices for these wastes. Thus, the characteristic wastes of concern for UIC wells in this rule are those that exhibit the characteristic of EP toxicity for metals at the point of generation.

EPA believes that the application of dilution rules to these wastes would not further minimize threats to human health and the environment. Specifically, EPA believes that disposal of these metals by underground injection at the characteristic level is as sound as the treatment option. Native formation fluids in injection zones already contain substantial concentrations of these metals. The addition of more metal-bearing fluid below characteristic levels would not appreciably alter these concentrations. Moreover, the propensity of such metals to adhere to

and, thereby, generally stay contained in the injection zones makes the practice of deep well disposal of such constituents an environmentally sound one. The example of immobilizing heavy metals in a unit is also noted in the legislative history.[16] In addition, as discussed below, there is a significant body of information that EPA has received from the petition process under 40 CFR part 148 concerning the containment properties of injection zones for dilute levels of the wider range of toxic constituents. This data supports the containment properties of these injection zones.

c. Regulatory Problems. There would be significant regulatory problems from application of a dilution prohibition to this category of facilities. If such a prohibition were to apply, many well operators would seek a "no migration" variance for their wells. EPA considers such wells likely candidates to be granted variances. Currently, however, EPA is processing variances for hazardous waste injection wells and is not processing variances for nonhazardous wells.

Hazardous waste injection is specifically subject to RCRA's land disposal restrictions. RCRA section 3004 (f), (g) and (k). Approximately 65 of these facilities have submitted petitions to obtain "no migration" variances from the LDR treatment requirements as provided for in 40 CFR part 148. EPA has proposed to grant 15 such variances, has granted 12, and anticipates that many other petitions will be both proposed and granted for underground injection. Thus, as a general matter, EPA believes the practice of deep well injection can be a protective practice within the framework of the land dis-

---

[16] "Another example of a potentially acceptable land treatment situation involves wastes containing heavy metals. Although land treatment does not render the waste nonhazardous, a prohibition would not be necessary if there is long-term certainty that the hazardous constituents would be immobilized" H. Rep. No. 198 at 34.

posal restrictions rule. The petition process, however, has been very time consuming and resource intensive. In addition, the process has involved a high degree of coordination with states that are authorized to administer the UIC permit program.

EPA experience with the "no migration" petition process indicates that many nonhazardous deep wells could probably qualify for a "no migration" variance under 40 CFR part 148. However, operators of nonhazardous waste wells have not had reason to believe that their operations would be subject to the land disposal restrictions and have not submitted variance petitions. Moreover, EPA is not convinced that the Part 148 regulations would be appropriate for nonhazardous waste wells. The goal of the SDWA regulations for deep well injection is containment of the wastes in an injection zone. This goal is consistent with the protectiveness goals behind the "no migration" variance under RCRA. There are no documented problems with the effectiveness of the UIC regulations.

Moreover, even where the practice involved disposal of hazardous waste, Congress fashioned statutory provisions in RCRA which reflect the view that there is more certainty concerning the safety of the deep well disposal practice than surface disposal practices. For example, RCRA sections 3004(c) and 3019(b) ban both landfilling of liquid hazardous waste and underground injection of hazardous waste into or above USDWs. RCRA provisions regarding deep well injection of hazardous waste, however, provided for further EPA review of this method of land disposal and allow for variances from the statutory prohibition. RCRA section 3004(f) and (g). The legislative history of the 1984 Amendments also state that "underground injection of hazardous waste can be safe environmental technology," Statement of Senator Bentsen, 129 Cong. Rec. S9153 (daily ed. July 25, 1983), and envisioned that compliance with the then-

existing underground injection control regulations could be sufficient to justify continued operation. *Id.* Through the Part 148 petitions, EPA has gained further knowledge concerning the critical issues determining the safety of the practice. In general, where the SDWA regulations are followed, injection of dilute amounts of toxic constituents is safe. Where injection is of waste below the characteristic level the injection zone will appropriately contain these hazardous constituents in a properly operating injection well.

Accordingly, if EPA were to apply a dilution prohibition to nonhazardous wells at this time, there would be considerable disruption at facilities that EPA generally considers safe. On balance, EPA believes it is appropriate to exempt from the LDR prohibitions characteristic waste disposed below the characteristic level in these wells.

* * * *

G. The Dilution Prohibition as it Applies to Centralized Treatment

1. Background

EPA discussed the issue of permissible and impermissible dilution of prohibited wastes at length in previous rulemakings. EPA's existing rules state that prohibited wastes cannot be diluted in order to circumvent a statutory or regulatory prohibition or effective date. 40 CFR 268.3.[18] The rules also generally discourage aggregation of wastes not amenable to cotreatment by providing that when wastes with different standards for a common constituent are combined for purposes of treatment, the treatment residue must meet the lowest applicable treatment standard. 40 CFR 268.41(b).

---

[18] Although section 268.3 is written in terms of "restricted" hazardous wastes, it applies equally to the narrower class of prohibited hazardous wastes. See 54 FR 38968 (Sept. 6, 1989) explaining the applicability of the dilution prohibition.

In interpretive preamble discussions, the Agency explained that these rules are not intended to discourage legitimate centralized treatment, and that aggregation of wastes preceding legitimate centralized treatment is not considered to be impermissible dilution. See *e.g.*, 52 FR 25766 (July 8, 1987) and other notices there cited. However, the Agency noted that centralized treatment of incompatible wastestreams was not legitimate treatment and constitutes impermissible dilution. *Id.* For example, it is impermissible dilution to aggregate a heavily concentrated organic solvent for which incineration is the appropriate treatment technology with less concentrated solvent streams for which biological treatment is appropriate.[19]

In this rulemaking, EPA believes that it is a necessary and responsible action on the Agency's part to indicate how these existing rules apply when prohibited characteristic wastes are involved. Contrary to the views of some of the commenters, this is not a new issue unrelated to the general substance of the Third Third rulemaking. Absent discussion, the existing rules would still apply to prohibited characteristic wastes, but the regulated community would be unaware of how the Agency interpreted their application and would be potentially unable to determine how to conduct their operations in order to comply with the dilution prohibition. EPA also believes that further clarification of the dilution rules with respect to prohibited listed wastes is warranted.

---

[19] EPA notes that its authority to promulgate a dilution prohibition rests not only on the land disposal restriction statutory provisions and Congressional directives (see in particular section 3004(m) and related statutory requirements for EPA to establish pretreatment standards as a condition to land disposal; see also H. Rep. No. 198, 98th Cong. 1st Sess. 38 (1983) and S. Rep. No. 284, 98th Cong. 1st Sess. 17), but in addition, the more general authority in section 3004(a)(3) to establish treatment standards "as may be satisfactory to the Administrator" and "as may be necessary to protect human health and the environment".

2. Summary of Proposal

EPA's proposal dealt with two particular issues. The first was the question of what constitutes legitimate treatment as opposed to impermissible dilution. The Agency indicated that any dilution that failed to meet the section 3004(m) standard of substantially reducing the prohibited waste's toxicity or mobility would be impermissible, and further proposed to quantify this statutory standard by indicating that there must be some actual reduction in the prohibited waste's toxicity or mobility as a result of treatment. 54 FR 48494. To satisfy this test, the Agency indicated at a minimum that there would need to be actual reduction through treatment of at least one BDAT constituent for each prohibited waste that is treated. *Id.* EPA further proposed that any dilution of a prohibited waste to render it nonhazardous, in lieu of treating, would be considered impermissible. *Id.* at 48495. The Agency solicited comment, however, on whether dilution could be considered a legitimate form of treatment for certain prohibited characteristic wastes. *Id.* at 48496.

These proposals were the focus of many of the comments, most dealing with the implications for wastewater treatment systems that include land-based treatment (often biological treatment ponds) or storage (for example, holding ponds for corrosive wastes that have been neutralized by dilution). Commenters also correctly viewed this issue as being intertwined (at proposal) with the implications of requiring treatment of characteristic wastes below the characteristic levels. More broadly still, the issue presents another aspect of the question of whether to determine if wastes are prohibited at the point of generation or at the point of disposal.

3. Today's Action

The existing rules on dilution and EPA's interpretive statements regarding those rules indicate that the dilution prohibition has a two-fold objective: (1) To ensure that

prohibited wastes are actually treated; and (2) to ensure that prohibited wastes are treated by methods that are appropriate for that type of waste. EPA has acknowledged that prohibited wastes which are aggregated are not diluted impermissibly if they are treated legitimately in centralized treatment systems, irrespective of the dilution inherent in such a system. Thus, if "dilution" is a legitimate type of treatment, or a necessary pretreatment step in a legitimate treatment system, such dilution is permissible. Conversely, prohibited wastes that are "treated" by inappropriate methods, or sent to treatment systems that do not treat the wastes, are diluted impermissibly.

In applying these principles to characteristic wastes, EPA encountered two major difficulties: first, the interface with regulatory systems established pursuant to the Clean Water Act and Safe Drinking Water Act, and second, difficulties in being able to quantify the proposal in a meaningful way. In section III.D above, we have already discussed the potential difficulties of integrating a full-scale dilution prohibition with the Clean Water Act's NPDES and pretreatment regulations, and the Safe Drinking Water Act's UIC program. We explain below the attempts EPA made to quantify the proposed standard, and the obstacles the Agency encountered.

The Agency's proposal to require reduction of a BDAT constituent as a means of evaluating if impermissible dilution has occurred did not indicate how much reduction would be deemed adequate, and thus without further elaboration not only fails to provide clear guidance but also potentially fails to achieve the objective of assuring that wastes are treated by an appropriate treatment method. More importantly, quantifying the extent of removal necessary to be considered legitimate treatment leads to a very complicated system given the number of prohibited wastes, treatability groups, treatment methods and treatment train configurations.

Given these problems and complications, EPA has decided that the most constructive course is to provide additional interpretive guidance on the existing dilution prohibition contained in § 209.3, and to explain more fully how those rules would apply in specific situations. We also explain again how we have determined to deal with the interface between RCRA and other wastewater regulatory programs.

a. *The existing dilution prohibition ordinarily would not apply to prohibited characteristic wastes generated and managed in treatment systems regulated by the CWA or SDWA.* As explained in a previous section, EPA has determined in most cases not to apply a dilution prohibition to characteristic wastes that are generated and managed in treatment systems regulated under the CWA or SDWA. EPA believes, however, that where the Agency has established a method as the treatment standard for a characteristic waste, and that where application of that method is consistent with and promoting of the objectives of the Clean Water Act or the Safe Drinking Water Act programs, then the method of treatment attaches to the waste at the point of generation, and dilution to change the treatability group to avoid application of the method is impermissible. For example, in this rule, this is true of the ignitible nonwastewaters containing greater than 10% TOC and the EP toxic pesticide wastewaters (D012-17) if these wastes are managed in wastewater treatment systems regulated under the Clean Water Act. The treatment method for these wastes is incineration, fuel substitution, or some type of wastewater treatment technology that destroys organics. Not only are these wastes amenable to combustion treatment (or other treatment that destroys organics), but they typically contain high concentrations of toxic organic constituents whose destruction furthers the RCRA goal of decreasing waste toxicity and minimizing threats from land disposal.

Prohibiting dilutions of these wastes (*i.e.*, requiring application of a specified treatment method) is entirely consistent with the existing regulatory framework of CWA's NPDES/pretreatment programs. For example, the 10% TOC ignitible wastes are inappropriate for wastewater treatment as they would overwhelm the capacity of most biological treatment systems. (As noted in the preamble section describing the D001 treatment standards, EPA in fact developed the 10% TOC cutoff for ignitible wastes based on the outer limit of design capacity for biological treatment systems.) The Clean Water Act effluent limitations guidelines and the standards addressing these types of wastes already contemplate that these wastes will not be diluted, but rather will be treated in the appropriate manner.

The logic that forces this decision for these wastes in a NPDES/pretreatment Clean Water Act system is not equally persuasive in the case of wastes disposed of by injection. As noted in section III.D, Class I deep wells inject below the lowermost geological formation containing an underground source of drinking water. Deep wells are not currently injecting wastes that contain any of the pesticide constituents found in D012-17 characteristic wastes. Additionally, there is not a design concern of overwhelming the biological treatment system in the deep well scenario. In this instance, it is illogical to force deep wells to utilize a specified method as there is little concomitant environmental or technical benefit through its utilization. Therefore, in today's final rule, the Agency is exempting deep wells from specified methods and the dilution prohibition as long as the characteristic is removed before disposal.

b. *Dilution is considered to be an acceptable method of treatment for non-toxic characteristic wastes.* Although EPA proposed that the dilution prohibition would cover all characteristic wastes, the Agency specifically noted that dilution might be an acceptable type of treatment

for non-toxic characteristic wastes and solicited comment on the issue. 54 FR 48496. After considering the comments, the Agency has determined that for non-toxic hazardous characteristic wastes (*i.e.*, wastes that exhibit a hazardous physical or chemical property), it should not matter how the non-toxic characteristic property is removed so long as it is removed. Thus, dilution is an acceptable treatment method for such wastes. (This issue is discussed in more detail in the sections on each particular characteristic waste.) The Agency realizes that this approach does not fully address the potential problem of toxic constituents that may be present in such wastes, nor encourages minimization or recovery of non-toxic characteristic hazardous wastes. EPA has determined that these potential problems should be addressed, if at all, in other rulemakings (or potentially in a reauthorized statute) and are too difficult to resolve in this proceeding, given the extraordinary pressures and limited review time imposed by the May 8 statutory deadline.

EPA also notes that it considesr high TOC ignitable nonwastewaters, reactive cyanide wastes, and reactive sulfide wastes to be toxic characteristic wastes. As noted above, the high TOC ignitables have been shown to frequently contain high concentrations of organic toxicants. Reactive cyanide and sulfide wastes obviously contain toxic constituents. Thus, dilution would not be an appropriate method of treatment for any of these.

c. *Determining when types of treatment (including centralized treatment) involving dilution are permissible.* The Agency is able to provide limited additional guidance today on the issue of when treatment methods involving dilution are permissible. The issue frequently arises when prohibited wastes are aggregated for purposes of treatment. First, if the wastes are all legitimately amenable to the same type of treatment, and this method of treatment is utilized for the aggregated wastes, the aggregation step is not impermissible dilution. Thus,

it is permissible (and normally desirable) for prohibited organic-containing wastes that are suitable for combustion to be aggregated before combustion even though the concentration of organics in some of the wastes decreases. (See, for example, the discussion for wastes K048-52.) On the other hand, as noted above, aggregation of high TOC ignitable wastes with ignitable wastewaters for centralized biological treatment is not permissible. Biological treatment is inappropriate for the high TOC ignitable wastes, and the aggregation step merely dilutes the high TOC stream.

As noted above, EPA is unable to quantify across-the-board what types of treatment are appropriate for particular prohibited hazardous wastes (both listed and characteristic). Clearly, as stated at proposal, units would have to be doing some treatment (*i.e.*, removing toxicity or mobility of BDAT constituents). In addition, treatment units would have to be treating wastes that are amenable to treatment in that type of unit or by that type of treatment, or, in the case of centralized treatment units treating aggregated wastes, appropriately combining wastes for common treatment. An example of type of treatment that is inappropriate for treatment of certain prohibited wastes would be biological treatment systems used to treat prohibited wastes having treatment standards for metals. In these systems, metal removal is incidental and nowhere as efficient as systems designed to treat metals; biological treatment systems are designed solely for organic treatment. (EPA notes, however, that since it is not applying dilution rules for most characteristic wastewaters, the above example would only apply in cases when a listed prohibited metal-bearing wastewater—a wastewater with treatment standards for metals—was being treated in a biological treatment unit. If this hypothetical biological treatment were a surface impoundment, EPA would not view it as satisfying the requirement of section 3005(j)(11) and § 268.4 that it

be conducting "treatment." See discussion at 52 FR 25778-79 (July 8, 1987) where EPA determined in an analogous circumstance that impoundments which primarily evaporate hazardous constituents do not qualify as section 268.4 impoundments which may receive wastes that have not met the treatment standard.) The clearest objective indication that proper treatment for a prohibited waste is being conducted is if the treatment is the same type as that on which the treatment standard is based. Thus, any aggregation before such treatment would ordinarily not be considered to be impermissible dilution. However, other forms of treatment may also be appropriate. Such determinations will be made on a case-by-case basis.

d. *Dilution to remove a characteristic.* EPA proposed that prohibited hazardous wastes could not be diluted by impermissible means to render them non-hazardous, even though the waste resulting from dilution would not have to be managed in a subtitle C unit. 54 FR 48495. Although this possibility exists for all prohibited wastes—both those that are listed (i.e., dilution to achieve delisting levels) and those that exhibit characteristics—the issue arises most often with respect to characteristic prohibited wastes.

EPA is finalizing this approach in the final rule, modified, however, by a number of principles discussed above. Thus, since it is permissible to dilute prohibited nontoxic ignitable, reactive, and corrosive wastes, it is permissible to remove the characteristic from such wastes by this means. Second, dilution of prohibited characteristic wastewaters is normally permissible because the Agency does not wish to disrupt existing regulatory programs developed under other statutes for such wastewaters. These two modifications address the concerns raised by many of the commenters.

For other situations, however, dilution to remove a prohibited waste's characteristic (or to render it delist-

able) is used "as a substitute for adequate treatment to achieve compliance with [a treatment standard]", and so falls within the express terms of the § 268.3 dilution prohibition. Furthermore, as the Agency explained in detail in the proposal, if the dilution prohibition were not to apply in such circumstances, the authority Congress granted the Agency to establish treatment standards for characteristic wastes would be essentially meaningless. Thus, EPA adheres to the position that the act of impermissibly diluting a prohibited waste so that it no longer exhibits a characteristic (or is rendered delistable) is illegal.

5. Examples

a. Facility A generates an EP toxic wastewater that it mixes in tanks with other wastewater so that the characteristic is removed. After mixing, the aggregated wastewaters are discharged to waters of the United States.

The dilution prohibition does not apply because the wastewater is not a prohibited waste; it is not being land disposed. In addition, the Agency has determined not to apply the dilution prohibition rules to characteristic wastewaters (with the exception of those subject to certain treatment methods that are managed in Clean Water Act facilities).

b. Facility B generates a wastewater that is corrosive and EP toxic for a pesticide. It is mixed in tanks with other wastewaters generated at the same facility so that both characteristics are removed. The aggregated mixture is then injected into a Class I UIC well. While a restricted waste at the point of generation, these wastes are not prohibited because they are injected below the characteristic level in a Class I injection well. See § 268.1(c)(3).

c. Facility C generates a wastewater that is a listed hazardous waste that contains metals for which EPA has established treatment standards. It aggregates this waste with organic wastewaters that are generated on-site so that the metal levels in the aggregated wastewaters are below the treatment standard. The aggregated mixture is then sent to a surface impoundment for biological treatment and then discharged to waters of the United States.

The dilution prohibition would be violated. EPA does not consider biological treatment to be an appropriate mode of treating metal-bearing toxic wastes (*i.e.*, wastes for which there are treatment standards for inorganic hazardous constituents). Any metal removal is incidental because the treatment technology is not designed to remove metals. In addition, removals are at a rate that is considerably less efficient than could be achieved by chemical precipitation or other forms of wastewater treatment. Thus, in the example, dilution would be used as a substitute for treatment of the listed waste and would therefore be illegal dilution and not treatment. (See 54 FR 38968 (Sept. 6, 1989) (dilution prohibition applies to wastes managed in section 268.4 impoundments).)

d. Facility D generates an EP toxic nonwastewater that it stabilizes to meet the treatment standard. The waste's volume increases 400 per cent as a result of stabilization.

Although there are too few facts in this example to give a definitive answer, normally this large an increase in waste volume would indicate that the treatment standard is being achieved as a result of dilution rather than treatment, and therefore would be impermissible.

* * * *

For the reasons set out in the preamble, title 40, chapter I of the Code of Federal Regulations is amended as follows:

PART 148—HAZARDOUS WASTE INJECTION RESTRICTIONS

1. The authority citation for part 148 continues to read as follows:

Authority: Section 3004, Resource Conservation and Recovery Act, 42 U.S.C. 6901 et seq.

2. Section 148.1 is amended by adding paragraph (d) to read as follows:

§ 148.1 Purpose, scope, and applicability.

* * * *

(d) Wastes that are hazardous only because they exhibit a hazardous characteristic, and which are otherwise prohibited under this part, are not prohibited if the wastes:

(1) Are disposed into a nonhazardous or hazardous injection well defined under 40 CFR 144.6(a); and

(2) Do not exhibit any prohibited characteristic of hazardous waste identified in subpart C of part 261 at the point of injection.

* * * *

PART 268—LAND DISPOSAL RESTRICTIONS

* * * *

2. In § 268.1, paragraph (c)(3) is added, and paragraph (c)(5) is removed, to read as follows:

§ 268.1 Purpose, scope, and applicability.

(c) * * *

(3) Wastes that are hazardous only because they exhibit a hazardous characteristic, and which are other-

wise prohibited from land disposal under this part, are not prohibited from land disposal if the wastes:

(i) Are disposed into a nonhazardous or hazardous injection well as defined in 40 CFR 144.6(a); and

(ii) Do not exhibit any prohibited characteristic of hazardous waste at the point of injection.

* * * *

4. Section 268.3 is revised to read as follows:

§ 268.3 Dilution prohibited as a substitute for treatment.

(a) Except as provided in paragraph (b) of this section, no generator, transporter, handler, or owner or operator of a treatment, storage, or disposal facility shall in any way dilute a restricted waste or the residual from treatment of a restricted waste as a substitute for adequate treatment to achieve compliance with subpart D of this part, to circumvent the effective date of a prohibition in subpart C of this part, to otherwise avoid a prohibition in subpart C of this part, or to circumvent a land disposal prohibition imposed by RCRA section 3004.

(b) Dilution of wastes that are hazardous only because they exhibit a characteristic in a treatment system which treats wastes subsequently discharged to a water of the United States pursuant to a permit issued under section 402 of the Clean Water Act (CWA) or which treats wastes for purposes of pretreatment requirements under section 307 of the CWA is not impermissible dilution for purposes of this section unless a method has been specified as the treatment standard in § 268.42.

* * * *